

Adams, Karen K NAE

From: julian_chang@harvard.edu
Sent: Friday, February 18, 2005 12:14 PM
To: Energy, Wind NAE
Cc: Patricia_Palmer@pz.harvard.edu
Subject: public comment

003910

To Whom It May Concern,

Having seen the EIS on the Cape Winds wind farm in Nantucket Sound and being somewhat familiar with the issues at hand, I would like to say that it looks like a plus for the region in general. I am a Cape homeowner and appreciate the need for lowering our energy costs and dependence on fossil fuels. I am familiar with wind farms in the SF Bay area and am impressed by the technology and energy benefits involved. It would be great to bring these generators on-line as soon as possible.

Good luck.

Julian Chang
Executive Director
Asia Programs, Center for Business and Government
Kennedy School of Government
Harvard University
79 JFK St.
Cambridge, MA 02138

Ofc: 124 Mt. Auburn St. Suite 520N-517
tel: 617-384-8118
fax: 617-495-4948
em: julian_chang@harvard.edu
<http://www.ksg.harvard.edu/cbg/asia>

Adams, Karen K NAE

003941

From: anthonycbecker@hotmail.com

Sent: Friday, February 18, 2005 9:00 PM

To: Energy, Wind NAE

Subject: Please extend the public comment period on the Cape Wind DEIS



Please immediately extend the public comment period on the Draft Environmental Impact Statement for the proposed Cape Wind project to 180 days. Any shorter time period is entirely insufficient to allow the public ample opportunity to provide input on such a lengthy and important document on a complex and controversial project.

Thank you for your prompt attention to this matter.

Sincerely,

Tony Becker

2/24/2005

003542

Adams, Karen K NAE

From: kevin.l.obrien@mckesson.com

Sent: Friday, February 18, 2005 12:52 PM

To: Energy, Wind NAE

Subject: Please extend the public comment period on the Cape Wind DEIS



Please immediately extend the public comment period on the Draft Environmental Impact Statement for the proposed Cape Wind project to 180 days. Any shorter time period is entirely insufficient to allow the public ample opportunity to provide input on such a lengthy and important document on a complex and controversial project.

Thank you for your prompt attention to this matter.

Sincerely,

Kevin OBrien

2/24/2005

Adams, Karen K NAE

From: loracsetag@hotmail.com

Sent: Wednesday, February 16, 2005 5:31 PM

To: Energy, Wind NAE

Subject: Please extend the public comment period on the Cape Wind DEIS

~~575800~~
3943



Please immediately extend the public comment period on the Draft Environmental Impact Statement for the proposed Cape Wind project to 180 days. Any shorter time period is entirely insufficient to allow the public ample opportunity to provide input on such a lengthy and important document on a complex and controversial project.

Thank you for your prompt attention to this matter.

Sincerely,

carol gates

Adams, Karen K NAE

From: rashton@fbw.com
Sent: Friday, February 18, 2005 12:42 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

003944

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

- Three full years of visual observations of birds
- 12 months of radar observations of flying wildlife
- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

ann ashton
5203 falls road terrace
baltimore, Maryland 21210

Adams, Karen K NAE

From: muttsandspots@aol.com
Sent: Friday, February 18, 2005 1:15 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

~~10000~~
3945

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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Sincerely,

MARIA LITTLER
P.O. BOX 6083
CLEARWATER, Florida 33758

Adams, Karen K NAE

From: sandy_russell@msn.com
Sent: Friday, February 18, 2005 2:53 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

003946

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

Sandy English
7994 Horse Ferry Road
Orlando, Florida 32835

Adams, Karen K NAE

From: kyhardin@bellsouth.net
Sent: Friday, February 18, 2005 3:36 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

003847

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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Sincerely,

Karen Hardin
241 Allensville Rd
Sevierville, Tennessee 37876-1611

Adams, Karen K NAE

From: fmayer@megalink.net
Sent: Friday, February 18, 2005 3:46 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

003948

Dear Colonel Koning,

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Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Frances Perlman
PO Box 293
West Paris, Maine 04289-0293

Adams, Karen K NAE

From: agowe@earthlink.net
Sent: Friday, February 18, 2005 3:48 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

003549

Dear Colonel Koning,

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Sincerely,

Amy Gowe
1059 Allen Road
Cat Spring, Texas 78933

Adams, Karen K NAE

From: jwright@iversongaming.com
Sent: Friday, February 18, 2005 4:26 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

003350

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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Sincerely,

Jennifer Wright
3169 Mayflower road
Plymouth Meeting, Pennsylvania 19462

Adams, Karen K NAE

From: alexispags@aol.com
Sent: Friday, February 18, 2005 4:32 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

003851

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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Sincerely,

Alexis Pagoulatos
332 E. 74th Street
Apt. 2A
New York, New York 10021

Adams, Karen K NAE

From: sheilaloay@aol.com
Sent: Friday, February 18, 2005 5:14 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

003652

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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Sincerely,

Sheila Loayza
15 Overlook Rd
Wayland, Massachusetts 01778

Adams, Karen K NAE

From: hepzibah_h@hotmail.com
Sent: Friday, February 18, 2005 5:32 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

003953

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

Hepzibah Hoffman-Rogers
2843 Gillet
Concord, California 94520

Adams, Karen K NAE

From: ackerlady@msn.com
Sent: Friday, February 18, 2005 7:20 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

003954

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

Beverly Ackerman
355 Bodmer Lane
Santa Rosa, California 95404

Adams, Karen K NAE

From: sgm80@bellsouth.net
Sent: Saturday, February 19, 2005 1:51 AM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

003855

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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Sincerely,

Theresa McDonald
524 Wood St.
Coral Gables, Florida 33134

Adams, Karen K NAE

From: nikkigena1@aol.com
Sent: Saturday, February 19, 2005 5:19 AM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

003950

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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Sincerely,

nicole hardin
6426 snow ville brent road
dora, Alabama 35062

Adams, Karen K NAE

From: pattiwade@comcast.net
Sent: Saturday, February 19, 2005 12:25 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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Sincerely,

Patti Wade
1111 Jade Drive
Bel Air, Maryland 21014

003957

Adams, Karen K NAE

From: m-mayers@moose-mail.com
Sent: Saturday, February 19, 2005 1:31 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

003958

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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Sincerely,

Mindy Mayers
33 Crystal Lake Ln
The Woodlands, Texas 77380-1893

Adams, Karen K NAE

From: sfdavis@usa.com
Sent: Saturday, February 19, 2005 1:34 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

503859

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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Sincerely,

Susan Davis
239 N. 110th Street
Apache Junction, Arizona 85220

Adams, Karen K NAE

From: demu13@msn.com
Sent: Sunday, February 20, 2005 1:26 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

003960

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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Sincerely,

W Fuller
71 Mildred Ave
Bangor, Maine 04401

Adams, Karen K NAE

From: John Souza [JSOUZAFAL@webtv.net]
Sent: Sunday, February 20, 2005 9:06 AM
To: anne.canaday@state.ma.us; Energy, Wind NAE; comments@saveoursound.org
Subject: Industrialization of Nantucket Sound!

This is to inform you that as a private citizen, I am opposed to the industrialization of Nantucket Sound.

John Souza Jr.
100 St. Marks Road
East Falmouth, MA 02536
(508) 457-6321
Email: jsouzafal@webtv.net

003061

Adams, Karen K NAE

From: adriennechinni@sbcglobal.net
Sent: Sunday, February 20, 2005 2:08 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

003862

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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Sincerely,

Adrienne Chinni
2733 Hampshire Road
Apt. 101
Cleveland Heights, Ohio 44106

40 Highland Drive
Centerville, MA 02632
February 21, 2005

003963

Col. Thomas Koning
U. S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742

Re: Proposed Cape Wind Farm

Dear Sir:

This is an urgent request for the Army Corps of Engineers to seriously consider alternate sites for the wind farm proposed for Nantucket Sound on Cape Cod.

The environmental impact statement is inadequate in many areas, including air and boat navigation safety, pollution threat from oil on the transformer substation, and visual pollution.

I am not a NIMBY, but as the former owner of a bed and breakfast I cannot fathom the long-term economic effects such a project would have on tourism and the many small businesses whose owners' livelihood depends on it. It is doubtful that our thousands of annual visitors would make a return visit to view an industrial site.

Please do not allow the industrialization of Nantucket Sound.

Sincerely,



Pat Donelan

RECEIVED
FEB 24 2005
U.S. ARMY CORPS OF ENGINEERS

February 21, 2005
9 Elizabeth Road
Hopkinton, MA 01748

003864

Colonel Thomas Koning
U. S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742

Dear Colonel Koning:

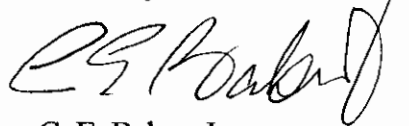
I am writing to inform you of my opposition to Cape Wind power project. I object to this project for two reasons. First, and most importantly, I believe the Cape Wind Environmental Impact Statement is flawed. Secondly, I think it totally inappropriate that a division of the U.S. Government would make available public property for free to an individual citizen for a profit-making venture.

While the Environmental Impact Statement falls short in many areas, there are three in particular that are problematic. Air and boat navigation safety has not been carefully reviewed. I am sure you are aware The Steamship Authority and Hy-Line Cruises have opposed this project for safety reasons. The environmental impact on birds and other wildlife has not been thoroughly considered. Several environmental groups including Mass Audubon, The Humane Society and The International Wildlife Coalition have expressed serious concern over the project. And finally, pollution threats from oil on the transformer substation has been understudied.

I know you will agree that our nation's waterways are a national treasure. I believe projects like Cape Wind should be coordinated and licensed on a national level. Should it be determined that projects like these make sense, then access to the public property should be auctioned to the highest bidder. The nation's airways have been successfully auctioned raising billions of dollars for the U.S. Treasury.

Thank you for listening. I hope my response along with others of concerned Massachusetts citizens will cause you to reconsider your support for the project.

Sincerely,



C. E. Baker, Jr.

Adams, Karen K NAE

From: annstone1@juno.com
Sent: Monday, February 21, 2005 8:42 PM
To: Energy, Wind NAE
Subject: Public comment

003965

Please add my comments to your list as being strongly for the Cape Wind Energy Project for these reasons: 1. As Cape Codders we need clean and renewable energy urgently. The Cape can be more polluted on some days in the summer than Boston just from the fallout from the Canal plant. 2. We need to prevent the likelihood of another serious oil spill on the shores of the Cape with a lower dependence on oil. 3. This is a unique and golden opportunity to harness low cost energy in our own backyard. 5. This site seems to be the best sited area on the Atlantic coast for a wind project. 6. Please do not be swayed by the New England delegation to kill this project. I don't believe they represent the whole state population's views and opinions on this project. 7. Tourism and adjacent land values would be enhanced not pulled down. So, I as a 23 year resident of Cape Cod, urge you to recommend proceeding with this beautiful and elegant enterprise for the benefit of all citizens of Mass.

Thank you. Sincerely,
Ann Nagel STone
86 Old Campus Dr.
E. Falmouth, MA 02536
508-548-1599

Speed up your surfing with Juno SpeedBand.
Now includes pop-up blocker!
Only \$14.95/month -visit <http://www.juno.com/surf> to sign up today!

Adams, Karen K NAE

From: Pflachance@aol.com
Sent: Monday, February 21, 2005 7:11 PM
To: Energy, Wind NAE
Subject: Please don't destroy our Sound

003966

Please leave one of the most beautiful passages uncluttered. Don't put windmills in our Nantucket Sound!!

Thank you,
Phyllis LaChance

2/24/2005

Adams, Karen K NAE

From: gypsy@warwick.net
Sent: Monday, February 21, 2005 4:23 AM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

003967

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

- Three full years of visual observations of birds
- 12 months of radar observations of flying wildlife
- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Mark Schulman
P.O. Box 945
Monticello, New York 12701-0945

Adams, Karen K NAE

From: flamebird@msn.com
Sent: Monday, February 21, 2005 1:14 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

003963

Dear Colonel Koning,

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Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Susan Phoenix
18111 NE 91ST CT
Redmond, Washington 98052

Adams, Karen K NAE

From: strain_team@netzero.net
Sent: Monday, February 21, 2005 4:07 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

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Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Darren Strain
4824 Shepherd Street
Brookhaven, Pennsylvania 19015-1124

003969

Adams, Karen K NAE

From: voll_s@york.cuny.edu
Sent: Monday, February 21, 2005 7:49 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

003970

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Susan Voll
York College - Room 4G01
Jamaica, New York 11451

Adams, Karen K NAE

From: a02cortes@yahoo.com
Sent: Monday, February 21, 2005 11:38 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

003971

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Anne Cortes
12229 E 215th st
Hawaiian Gardens, California 90716-2311

Adams, Karen K NAE

From: Brendan [bon@vineyard.net]
Sent: Tuesday, February 22, 2005 10:41 AM
To: Energy, Wind NAE
Subject: Public testimony, CapeWind proposal



Vineyard
Conservation Society

TO:

Karen Adams
USACE
696 Virginia Road
Concord MA 01742
wind.energy@usace.army.mil.

FROM:
Brendan O'Neill, Executive Director
Vineyard Conservation Society, Inc.
P.O. Box 2189
Vineyard Haven MA 02568
508 693 9588
bon@vineyard.net

RE:
Cape Wind dEIS

MESSAGE:

Karen: Please accept the attached statement for inclusion in the public testimony record on Cape Wind. The statement contains remarks I presented at the public hearing on the Vineyard. Many thanks.
Brendan O'Neill

903972

Vineyard Conservation Society testimony
Army Corps dEIS public testimony record
CapeWind proposal
12/6/04

My name is Brendan O'Neill, Executive Director of the Vineyard Conservation Society. VCS is a local, non-profit environmental organization working to promote land and resource protection on the Vineyard. For 40 years now, we have worked to promote the broadest possible definition of conservation, including conservation of habitat and resources and community character and energy. We are grateful to the Army Corps for extending the testimony deadline for this development. We intend to submit complete comments on the draft EIS before the end of February. But for now, just two brief observations:

Firstly, we feel strongly that if the public interest is really to be served here, we need to raise for the record the big issue about process – how can this plan review process be made to respond to the central question of what uses should be authorized in our public waters? If there are to be more of these offshore wind developments slated for the eastern seaboard in the future, does it make sense to address them in isolation, or within some kind of guiding regulatory principles or framework?

And we need to try to elevate the level and quality of the dialogue that has taken place to-date on this project.

On the project applicant's side, we are concerned that we see a strategy which has had the effect of dividing the environmental community. That is regrettable, and certainly not serving the greater good.

Advertising proclaiming "Our Wind Farm Our Future" goes to the very root of the problem many people here have with this project – that in fact its not our wind farm; it is their wind farm, which entrepreneurs seek to site in our Nantucket Sound.

In April of last year, Søren Hermanson, Director of the Samsø Island Energy Office in Denmark spoke on this Island at the event organized by the Vineyard Energy Project and co-sponsored by our Vineyard Conservation Society. He said: "With local ownership of wind power, we made the citizens owners. Local ownership is the essential thing in wind development; you can't let others take the profits away. Why should the local citizens look at them when they can't benefit from them? Our own child's piano lessons are less irritating than the neighbor's child."

The second observation I'd like to make is that the central importance of energy conservation cannot be lost in the heat of this debate. Our concern is that the swirl of all the information being circulated about the project tends to under-emphasize or under-report the critical importance of energy conservation and the power that average citizens hold to actually do influence our energy future. We want the passion being generated

around the wind farm issue to be translated into an equally passionate commitment to energy conservation and energy efficiency in our daily lives.

I have no doubt that everyone in this room wants wind to succeed. As a society we need renewable energy sources to succeed; they must succeed. It is fundamental to the protection of the public interest and a healthy and sustainable future for ourselves and for our environment.

But we strongly disagree with the position that, in the current vacuum caused by the absence of a coherent energy policy, the absence of a regulatory framework addressing offshore wind facilities, and the absence of a commitment to prominently feature energy conservation, that its somehow OK or appropriate for entrepreneurs to operate indiscriminately.

It is our hope that the Army Corps plan review process can be the catalyst to begin the needed discussion about what uses should be permitted in public waters and whether authorizing uses like this one makes sense for all of us.

Thank you.

Adams, Karen K NAE

From: Suebear3@aol.com
Sent: Tuesday, February 22, 2005 5:23 PM
To: Energy, Wind NAE
Subject: Protect Nantucket Sound

003973

Ms. Kirk-Adams:

As a lifetime resident on Nantucket Sound, I strongly oppose the building of windmills on the Horseshoe Shoal which in fact is not owned by anyone nor should it be. The horseshoe shoal has great history with not only the local residents, but to the birds, fish and other natural inhabitants. To destroy that setting because of one's wish to produce energy is a crime.

Renewable energy is a wonderful concept; but to find the appropriate area to put the necessary structures is another.

This should not be the decision of one private organization trying to become wealthy. It is a concept that should be decided upon by a governing body. I think of the ocean as the new "wild west"; there should be laws to permit growth.

Susan McPherson
41 Hawthorne Avenue
P.O. Box 506
Hyannis Port, MA 02647

Adams, Karen K NAE

From: ppeters@corssp.org
Sent: Tuesday, February 22, 2005 9:36 AM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

paula peters
313 fallow ct.
piqua, Ohio 45356

003974

Adams, Karen K NAE

From: CastaDiva2005@webtv.net
Sent: Tuesday, February 22, 2005 3:24 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

003975

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

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Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Robert Beam
4110 Kings Lane
Burton, Michigan 48529-2502

Adams, Karen K NAE

From: bbugbee@colostate.edu
Sent: Tuesday, February 22, 2005 4:10 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

003976

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Becky Bugbee-Tong
672 Mansfield Drive
Fort Collins, Colorado 80525

Adams, Karen K NAE

From: Cathryn F. Brower [cfbrower@comcast.net]
Sent: Tuesday, February 22, 2005 3:11 PM
To: Energy, Wind NAE
Cc: anne.canaday@state.ma.us; comments@saveoursound.org
Subject: Wind Mills should be placed on land.....

To Wind Energy, Anne Canady and others involved with making the decision regarding wind mills in Nantucket Sound..

Wind mills should be place on land, not on the water...
for ease of maintenance, for educational
purposes, and most important, not to become obstructions in
our beautiful sailing, commercial shipping and fishing waters
that could hamper search and rescue operations as well as endanger
the creatures who call the sea, home!

Can you imagine if Nantucket Sound had an oil spill like we
did, how difficult it would be to clean up and navigate
around wind mills!

Cathryn F. Brower
on Buzzards Bay in Fairhaven where
Bouchard Oil Spill destroyed our water
and beaches!

Tel: 508-997-4110
email: cfbrower@comcast.net

003977

Ms. Karen Kirk Adams
Cape Wind EIS Project Manager
Army Corps of Engineers- New England District
696 Virginia Road
Concord, Massachusetts 01742-2751

003978

RECEIVED
FEB 23 2005

Re: Cape Wind Project

February 19, 2005

Dear Ms. Adams,

While I can't claim any technical expertise that might add to the already detailed Draft Environmental Impact Statement, I can offer the perspective of someone who has spent much of the last two years researching wind power projects worldwide and the debate that surrounds them.

Initially I was dismayed by the prospect of a large 'wind park' located in the waters of Nantucket Sound. I remember thinking with genuine alarm, "What next!"

Like most people, I had no idea where my electrical power came from, how it was produced and the burden it placed on my immediate environment. While I was aware of the emerging issues surrounding global warming and drastic climate change I never realized to what extent I contributed to this enormous problem. I was also blissfully ignorant that the air quality of the Cape and Islands was deplorable. It was my chagrin and shame that made me decide to learn more about these issues and to hopefully convince others to do the same.

Whenever I discuss wind power I try to lead people through the same process that I went through to eventually arrive at a greater understanding of the issues, especially the need to come up with comprehensive and effective solutions- now, not later. The resounding sentiment of people who still remain steadfastly against the Cape Wind proposal is simply to put it somewhere else. I have yet to hear an informed alternative that offers nearly as many benefits to our region- in fact, it is rare to hear any alternatives offered at all.

This has led me to conclude that the less one knows about energy production, fossil fuel resources and dependency on nonrenewable resources the more likely one is to remain confident in concluding that change is unnecessary. The less one knows the easier it is to decide that the Cape Wind project is without merit.

While it may be human nature to resist change, I feel that we must begin initiating and implementing bold solutions to the vexing problems that are already upon us. As you, the members of the Army Corps of Engineers weigh the important issues before you please ask yourselves:

Will our descendants, the future generations of this world condemn our decision to embark on a path towards a renewable energy future today?

Placed in that context I think you'll agree that the choice of which fork in the road to take is a rather easy one after all.

I am satisfied that the work contained within the DEIS more than adequately addresses the impacts and risks surrounding the project. We need to begin moving in a new direction as both a region and a nation. Let's begin it now!

Sincerely,


Robert Skydell

Adams, Karen K NAE

From: John DeVillars [jdevillars@bluewavestrategies.com]
Sent: Wednesday, February 23, 2005 6:41 AM
To: Energy, Wind NAE; mepa@state.ma.us



Cape Wind letter
2.22.04.doc

Attached please find comments on the Cape Wind project for the NEA/MEPA review. Thank you. John DeVillars

John DeVillars
BlueWave Strategies LLC
137 Newbury Street
Boston, Massachusetts 02116
Tel: (617) 266-0505 ext. 202
Fax: (617) 859-9889
E-mail: jdevillars@bluewavestrategies.com
URL: www.bluewavestrategies.com

003973

February 22, 2004

Karen Kirk-Adams
Cape Wind Energy EIS
U.S. Army Corps of Engineers
696 Virginia Road
Concord, Ma. 01742

003980

Ellen Roy Herzfelder
Secretary
EOEA
100 Cambridge Street
Boston, Ma. 02114

Dear Ms. Adams and Ms. Herzfelder,

I write in support of the proposal for the Cape Wind project.

Massachusetts has a proud history of leading the way on America's environmental advances. From the nation's first land trust and public health standards to the first wetlands and toxics reduction laws time and again Massachusetts has seen the environmental future and seized it. By supporting Cape Wind we can do so once again.

It is an all-too-rare privilege to have an opportunity to demonstrate national leadership on any matter, let alone one so profound as national energy policy. The Cape Wind project affords an excellent opportunity to do just that. And there is no more important issue at hand on which to lead than sane, sustainable energy. Absent leadership at every level – and absent action on sustainable energy projects of serious scale – we are putting future generations at risk of serious injury to their health, quality of life and economic well being.

Let me summarize the evidence:

- The 10 warmest years on record have all occurred in the last 13 years.

- The current climate change models suggest that by 2040 at least one year in two is likely to be even warmer still.
- The number of people affected by floods worldwide has risen from 7 million in the 1960's to 150 million today.
- And sea levels keep rising. The scientists forecast further rising over the rest of this century. If they are correct, 100 million more people from Bangladesh to South Florida will be environmental refugees.

The scientific community is unambiguous – the planet is warming; industrial activity is contributing to it; and we are fast approaching a point of no return. If they are right, then unabated it will result in catastrophic consequences – catastrophic – for our world. I am not a doomsayer by nature. I am in fact an optimist. But there is no issue that requires more clear-eyed focus and urgent attention than climate change.

Virtually every day in some corner of the world we see the consequences of not doing so:

- In Europe more than 75,000 people lost their lives in the 2003 heat wave; 43% of all bird species are threatened - starlings, sparrows, buntings and warblers all declining at alarming rates.
- In London the number of times the dams are operated to control flooding from the Thames River is increasing exponentially.
- In Alaska where everything is built on permafrost across the state we now see buildings collapsing and pipelines buckling as the permafrost melts. Entire villages on the state's Northeastern coastline are being washed away by larger and more unpredictable ice-free sea.
- In Antarctica, where 95% of the world's fresh water is locked in ice, we now have pieces of the West Antarctic Ice Sheet the size of Rhode Island falling off all the time. Just last month NASA released data documenting the dramatic acceleration of this trend and the measurable impact it is having on sea levels.
- The scientific community was amazed two years ago when the Ward Hunt Ice Shelf – the largest in the Arctic – cracked in half. Now each year, with torrents of water rushing off of its glaciers, it is losing far more than it is gaining.

- For 40 years the Navy has been keeping records of the depth of the Arctic Ice Pack. In that time it has thinned by 40%; within 50 years they predict that in summertime it will be completely gone.

And the indisputable truth is that this process is accelerating. When the sun's rays hit ice, 90% of the energy bounces off. But when it hits water, 90% is absorbed, further accelerating the melting and the sea level rise and all that goes with it

And now just in the past few months consensus has formed in the scientific community that as global warming increases the ocean water temperature, wind velocity and moisture content go up as well. That's what happened in Florida this year. They are now finding that these more frequent storm events are more powerful as well - on average a half-step more powerful – than in the past. A Category 3 is now a 3.5; a Category 4, a 4.5.

British Prime Minister Tony Blair summarized the emerging science well in remarks delivered last fall: "Greenhouse gas emissions...are causing global warming at a rate that began as significant, has become alarming and is simply unsustainable in the long term. And by long-term I do not mean centuries," Blair said. "I mean in the life-time of my children certainly; and possibly within my own." "And by unsustainable," he added, "I do not mean a phenomenon causing problems of adjustment. I mean a challenge so far-reaching in its impact and irreversible in its destructive power, that it alters radically human existence."

Prime Minister Blair gets it right. And here at home we have an opportunity to demonstrate that we not only understand the problem, but that we are also prepared to do something about it. By moving forward on the Cape Wind proposal – not blindly, but with sound science and rigorous analysis as our guide – we can demonstrate that we are prepared to do our fair share. This is an educated state. Intellectually we know that sound, broadly accepted scientific opinion dictates accelerated investment in alternative energy. As citizens of a state with a proud and progressive heritage our collective conscience should lead us to support the most significant opportunity for clean energy that any of us are ever likely to be in a position to advance.

I have many close friends who see the issue differently. Some are leading the fight to stop the project. Many of us have been on the same side in many environmental battles in the past, and I am confident we will fight together in the future. But much as I respect their commitment and their beliefs, on this issue we must part ways.

There are three principal issues on which opposition seems to rest – environmental impacts, aesthetics, and process.

I trust that the environmental review process will be both rigorous and fair. Those who are responsible for it are committed environmental professionals who fully understand the reach and power of the law. More study will no doubt be helpful in fully understanding and mitigating against potential impacts and should be required as part of a FEIS, most especially the analysis suggested by US Fish and Wildlife on the impacts on bird populations. Nevertheless the DEIS does not suggest that there are environmental issues that can legitimately be said to be so significant as to warrant disapproval of a project that in and of itself, as well as symbolically, has so much environmental benefit.

Aesthetics are, of course in the eye of the beholder and, for better or worse, outside environmental law. I share the opponents' love of the treasure that is Nantucket Sound. For more than 30 years I have swum and skied and sailed in those waters. Some of my proudest moments as a public servant are those where I was a small part of a larger effort to protect them. But aesthetically I am more concerned about what the people in Somerset and Salem and other communities that are host to coal burning power plants face every day than I am to the addition of windmills to the Sound.

Finally, process. I agree with the opponents that the current process for siting offshore facilities is flawed. It borders on the shameful that we do not have the public leadership that puts the government in the driver's seat in selecting off-shore energy sites and establishing cogent and transparent processes and rules for determining who can build where. The citizens of New England as well as Cape Wind and other developers would be better served if we there were a proactive effort to determine what portions of our ocean waters should be zoned for these purposes. But Cape Wind has played by the rules and it seems extraordinarily unfair to hold them hostage to a process that, while putting the cart before the horse, nevertheless allows for a robust and thorough analysis to determine the project's merits.

The world's foremost scientists may be wrong about what they consider the very real prospect of dramatic climate change and the profound impacts that would result. Nevertheless just as the homeowner would be foolish not to have fire insurance, on the off chance that the scientists are right, we would be foolish not to have the protection that a sound, sustainable energy policy provides. The Cape Wind project is an important investment in that policy. It is important for the clean energy it will provide. But it will ultimately be even more important as a symbol of our collective will to achieve something beyond the status quo. We should do so, not just for ourselves, but for future generations as well.

Sincerely,

John P. DeVillars

50 Commonwealth Avenue
Boston, Ma. 02116

Adams, Karen K NAE

From: lenznick@crocker.com
Sent: Wednesday, February 23, 2005 7:37 PM
To: Energy, Wind NAE
Subject: Massachusetts needs wind energy

00:3981

Wind power is a promising choice for Massachusetts' energy future. We need to ensure that the Cape Wind Project receives a prompt and thorough review that keeps the public interest at the forefront.

I have driven through two massive CA windfarms and yes, they are full of propellers, but cast a unique beauty of their own. Wherever they are placed, windmills will be conspicuously noticeable.

Winmills create casualties among bird and bat migrations, but then so do coal fired plants that are much more stinky.

And, AND, wind power is now market competitive.

andrew lenz
144 N Leverett Rd
Leverett, MA 010549733

Adams, Karen K NAE

From: redpanda@gmail.com
Sent: Wednesday, February 23, 2005 5:31 PM
To: Energy, Wind NAE
Subject: Massachusetts needs wind energy

003982

Wind power is a promising choice for Massachusetts' energy future. We need to ensure that the Cape Wind Project receives a prompt and thorough review that keeps the public interest at the forefront.

Amanda Dameron
145 Forest St
Medford, MA 021552550

Adams, Karen K NAE

From: Ginny Baukus [ginny@hyannis.com]
Sent: Wednesday, February 23, 2005 2:32 PM
To: Energy, Wind NAE
Subject: I oppose the Cape Wind project

303583

To Karen Kirk-Adams:

To put it very simply, I am absolutely opposed to the Cape Wind project. There are numerous reasons for my opinion, some of which are: the noise pollution, the light pollution from the 500+ red and amber lights on the towers and platform, the relative meager cost savings which would come from the project, and the paltry, if any, benefits to the local cape community. The main reason, however, why I am so opposed to this project, let it be known that I am very much in favor of alternative energy sources, is the proposed location; Nantucket Sound. This is such a local and state and national treasure! It is shocking and enormously sad to think that it could forever be ruined by the Cape Wind project. The fact that the multitude of towers will appear to "only" be three or so inches high when seen from the shore is no consolation what so ever. This project cannot go forward as planned in the Nantucket Sound! How is it even possible that it is proposed? Please stop this from ever happening. It would be a mistake on the most enormous scale.

Sincerely,
Elizabeth Syrov
bsyr@hotmail.com

P.O. Box 551
Centerville, MA 02632

Adams, Karen K NAE

From: William Bambery [wilbamb@yahoo.com]
Sent: Wednesday, February 23, 2005 2:46 PM
To: Energy, Wind NAE
Cc: Sandy Prestlien
Subject: thirty years later let's get this party started

003981

To whom it may concern-all of us;

Solar power was squished like the patriots did(miami dolphins)(hence squish the fish) twenty years ago but thirty years is a long time to wait for something totaling viable in the seventies.

aluminum smelting in Australian was attainable then also. Solar water preheaters, wind energy availability, it's all right there everyday. We need to stop polluting the planet.

Bill

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<http://mail.yahoo.com>

2/24/2005

Adams, Karen K NAE

From: Kevin Corcion [kevincorcino@hotmail.com]
Sent: Wednesday, February 23, 2005 6:55 PM
To: Energy, Wind NAE
Subject: wind park project on Horseshoe Shoal

Dear Ms. Karen Kirk-Adams:

I think the Cape Wind project is a glimpse at the future. We need to curb our dependence on fossil fuels and embrace renewable natural sources of energy in order to ensure our sustainability.

003985

Please support the Cape Wind project and encourage your colleges to do so as well.

Sincerely,

Kevin Corcion
21 Lordvale blvd
North Grafton, MA 1536

cc:
Capewind

Adams, Karen K NAE

From: Geraldine Kerrigan [g_kerrigan@yahoo.com]
Sent: Wednesday, February 23, 2005 6:55 PM
To: Energy, Wind NAE
Subject: wind park project on Horseshoe Shoal

Dear Ms. Karen Kirk-Adams:

I am writing in support of the Cape Wind Project. I believe in investing in our future. Therefore, we should be exploring alternative energy projects such as the Cape Wind Project. Rather than opposing this project we should be embracing the project and show-casing our ability to be inventive and creative. I believe this will not only help our environment but would also be a boost for the economic situation here in New England. I trust our elected officials will support this project as I have supported them.

Regards,

Geraldine M. Kerrigan

Sincerely,

Geraldine Kerrigan
19 Brian's Way
Plymouth, MA 02360

cc:
Capewind

003986

Adams, Karen K NAE

From: genevieve.weaver@nextel.com
Sent: Wednesday, February 23, 2005 4:52 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

- Three full years of visual observations of birds
- 12 months of radar observations of flying wildlife
- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Genevieve Weaver
12817 Misty Lane
Woodbridge, Virginia 22192

003987

Adams, Karen K NAE

From: Porter, William RDECOM (PKI) [William.I.Porter@us.army.mil]
Sent: Wednesday, February 23, 2005 2:38 PM
To: Energy, Wind NAE
Cc: 'ncanat@aol.com'
Subject: Cape Wind Energy Project

003988

I have been informed that the initial public comment period on this project (Nantucket Sound Wind Farm) ends Feb. 24.

Here are my comments:

I have examined the Environmental Impact Statements. The many impacts of the project: economic and commercial, navigational, biological and ecological, tourism, land values, employment, etc., seem to have been rigorously examined and, by and large, there seem to be very few counterindications, except, of course, the aesthetic visual impact, which can hardly be objectively addressed. An argument for the latter could possibly be that this is local imposition of a seascape by many persons who do not have permanent or vacation homes in the area.

However, considering the enormous and imminent threat of global warming and the damage it could do to the Cape landscape and beaches by flooding and erosion, to the spawning of much more frequent massive climatic disturbances like hurricanes, to the increased warming-induced incidence of insect vector diseases like Lyme Disease or West Nile Virus, all of which will negatively impact Cape real estate values and insurance rates, it seems a myopic and denial behavior to oppose the Wind Farm, which can be a prototype for others in the New England area. Large scale partial conversion from coal and oil to renewable energy within the next two decades is a MUST.

I therefore strongly favor construction of the Wind Farm on Horseshoe Shoal.

Bill Porter
Research Food Biochemist and ex-Meteorologist/Climatologist
10 Oakridge Ave.
Natick, MA, 01760
508 653-7273
e-mail NCANAT@AOL.COM

Adams, Karen K NAE

From: Mitch [mitch@nantucket.net]
Sent: Wednesday, February 23, 2005 10:16 PM
To: Energy, Wind NAE
Subject: Cape Wind

003989

Karen Kirk Adams
Wind Energy Project EIS Project Manager
Corps of Engineers, New England District
696 Virginia Road
Concord, MA 01742-2751
wind.energy@usace.army.mil <wind.energy@usace.army.mil>

Dear Ms. Adams,

I have been a resident of Nantucket since 1970. I would like to be included in your records as being in full support of the Cape Wind project in Nantucket Sound.

After reviewing the many positions for and against the project and its impact on the environment, communities and people of the area, I have concluded that it is a viable and necessary step forward towards solving problems with global implications. I am confident that the potential benefits will greatly outweigh any possible adverse local effects and that all issues of public safety can be adequately addressed.

I sincerely hope that your agency reaches a similar conclusion and will find in favor of continuing the Cape Wind project.

Cordially,

Lyman R. Blake, Jr
19 Helens Dr.
Nantucket, MA 02554
mitch@nantucket.net

Adams, Karen K NAE

From: Sheila Harvey [petehbruno@msn.com]

Sent: Saturday, February 19, 2005 4:53 PM

To: Energy, Wind NAE

003990

I am a property owner on Cape Cod, and I am in favor of the wind farm. The wind mills are not unsightly, will not adversely affect the sound, and will cut down on air pollution and fossil fuel use. I cannot say anything negative about them. I will not mind if they are visible from my beach. Please consider this in deciding to issue a permit for their installation.

Richard P. Harvey
129 Morgan Drive
Glastonbury, CT 06033

Adams, Karen K NAE

From: WalachP
Sent: Wednesday, February 23, 2005 10:48 PM
To: wind.energy@usace.army.mil
Subject: Support for Cape Wind installation of wind turbines from Paula Walach-industrial electrician



my web page oct.
19 2001.htm

003991

To whom it may concern,

I'm expressing all out support for the establishment of Cape Winds installation of wind turbines off cape Cod.

The main objective for my support is I like to advocate not only living better electrically, but also to travel better electrically. Case in point, please go to the web site of Calgary transit, of Calgary, Alberta Canada. A prairie town in the middle of the Canadian oil producing. Since the late 1980s they have had an electric light rail system re-installed to reduce corporate emissions in the down town core. As of several years ago, a near by wind farm in So. Alberta started generating electric power to feed via overhead wires at %100 the Calgary Transit light rail system. This light rail system has become so popular that demand for rider-ship is ever increasing to the point that money is being appropriated to drastically expand that electric light rail system. A win-win situation to not only reduce emissions, but also to reduce dependency on fossil fuels. I refer to fossil fuels as running things off the dead. At such a price that may contribute to upper respiratory sicknesses such as asthma or early death of people living where traffic congestion of fossil fuel buses is prevalent, such as in the Roxbury section of Boston. My own mother died of asthma.

With wind power being available, this could be a golden opportunity for transit agency's such as the MBTA and others in eastern Mass to advocate electric light rail, or the re-installation of trackless trolley electric bus systems that was destroyed back in the early 1960s in the name of a trend that followed suit at the time with other transit system across the country. Boston up until 1963 had the third largest electric bus system that worked very well. With the new type of electric motor, power electronic drives, all the more efficiency could be achieved in such transit vehicles as compared to any type of fossil on board fuel burners such as diesel or even natural gas burning buses. Also another win-win situation is the life expectancy of such electric vehicles. And the less maintenance costs to boot as well.

As I have read some of my technical journals, there is also technology that could shew birds away the the huge turbine blades. I love birds, and I like to watch them.

To conclude, I see this as a national defense strategy to wean our country from the excess purchase of mid-east oil. Such purchases that may contribute indirectly to terrorism. We as an American nation just cannot try to keep mussel out oil out of the mid-east, or for that matter any other foreign sources .

Paula Walach-Industrial Electrician
10 Haskell Place
Peabody, Mass 01960
Tel# (978)531-8181 (603)432-8181
cell# (617)224-7078

Please see attached comment for further justification from the web site of www.trolleycar.org on Oct 19, 2001. Note this web site has been partially reduced.

Free Congress Foundation

NEW

The New Electric Railway Journal

Rail Commentary

Paula Walach
Industrial electrician
 October 19, 2001

Thoughts From Paula Walach, Industrial Electrician

Pure Electric Mass Transit-Environment over energy crisis and Transit agencies that favor Bus Rapid Transit , or what I Would call Bus Faux Transit.

Throughout the nation, the use of electricity for mass transit has been caught at one time or another, especially for the Boston Mass M.B.T.A.'s Washington st. Silver line, and the The Urban Ring, in which it has been in the middle of a lively public argumentation about environment and its relation to limited energy resources. A trip to Paris France, or Moscow Russia show cases their urban ring systems to be pure electric traction, of heavy rail. I know , I've been there, and can appreciate it very much. Why can't Boston do the same? Why is it that the big dig political thugs can musle \$14.5 Plus Billion dollars for a measly 7 route miles of highway through Boston Mass, while the MBTA cannot secure funding to implement phasing in an urban ring of quality heavy rail , electric traction??? I want to point this out from an electrical point of view.

The issue comes down to two questions: Should we go for the possibly greater economy and efficiency of burning fossil fuels in all kinds of buses, commuter rail, diesel powered light rail and above all the preposterous Bus Rapid Transit powered by compressed natural gas for the Urban ring , or the klunker duel mode stinking diesel/electric buses for the silver line????!! or do we have to put up with the hodgepodge design of the urban ring and learn to live and work in an environment of even higher co2 and noise pollution this causes ?--- or Should we generate electricity in power plants away from where we live and work powering our mass transit vehicles with clean electric means and there by keeping air and noise pollution away from people?

Running mass transit vehicles with diesel or even compressed natural gas and I would even address in a limited way the hydrogen fuel cell technology even though it may be emissions free, can look like an efficient technique for extracting the maximum economy from fuel.... But this does put the exhaust fumes , noise and waste heat right where people live and work exposing them to dangerous concentrations of air and noise pollutants at ground level. Reductions of these type of pollutions to safe levels by control equipment on the individual vehicles is not a realistic expectation. To legislate and regulate pollution control on thousands of those fossil fuel burning transit vehicles would be an incredibly costly solution , if not out right an impossibility given the poor track record maintenance of such transit agencies that pander to the bus manufacturing and diesel fume[sic] oil industry lobby, or in my opinion some kind of mass transit on going conspiracy since the 1930s...

If we remotely locate our generating plants that burn fossil fuels there and send clean electric energy to our population centers, we drastically reduce pollution for two reasons: First , we are keeping combustion and noise effluents away from people; and second the opportunities for pollution control on fuel burners are real and substantial. As electric utilities, some have clearly demonstrated, it is readily within our technical and administrative capabilities to effect maximum pollution reduction at power plants. Of course running mass transit vehicles by electric energy remotely generated is charged with being at odds with the present emphasis on efficient use of the limited fuel supplies, regardless if they are fossil fuels or renewable type or green sources of generating electricity. Heat losses in generation and transmission and distribution losses reduce the amount of useful energy extracted from the fuel, but some power plant systems do have the advantage of being meticulously designed and maintained, whereas combustion inefficiencies due to poor design and lack of maintenance in the thousands of fossil fuel mass transit vehicles certainly accounts for very substantial HIDDEN LOSSES. Case in point, buses that have to idle in winter months in the bus storage facilities or repair. It is extremely likely that , on the basis of energy extracted from fuel, the average efficiency of fossil fueled motorized mass transit

vehicles--considering design, maintenance--- is lower than the average efficiency of pure electric mass transit systems (taking in all the wiring losses back to the generating plant) . Another case in point , a first for North American continent, as of Sept 5, 2001 , the city of Calgary , Alberta Canada, a prairie town in the middle of Canadian oil country , launched its "Ride The Wind" project. E-MAX the first company in North America to supply wind power electricity to fuel an entire light rail system. A total win- win situation by the wind system..A project that provides 100% emissions free C-train system and contributes significantly towards the city of Calgary's goal to reduce its corporate CO2 emissions!!!!

A critically important advantage of pure electric mass transit is the very high horsepower utilization at the rail or wheel in the case of trackless trolley, which is adjustable with the incorporation of the new type of Variable frequency drives , adjusting according to loads of people being carried, without robbing power from other vehicle functions such as heating and or air conditioning. A typical problem in fossil fueled transit vehicles that operate in summer heat. Try riding on some MBTA buses on a hot day!! Also that is another reason why we have that so called urban heat island that contributes to smog because of the stinking bus belching not only smoke and roaring with noise, but heat as well because of that burning of fuel within the vehicle!!! No wonder why on weekends, city dwellers try to escape the city for the country. That is also why we have people living in the sprawling suburbs. that waste heat is just not healthy where people live and work.

The controversy environment and energy crisis will continue to rage on as long as we the people let companies lobby our elected officials for more highways/airports and other companys that would thwart the development of electric mass transit systems. Or in other words a silent continuation of the great mass transit conspiracy that started in about the 1930s in which General Motors, Firestone Rubber Phillips Petroleum, Mack Truck and others to form National City Lines to motorize in over 100 cities nation wide, with back room type dealing to scrap all electric properties and promising not to return to pure electric transporation. As new and more reliable information is developed, solutions to our problems will become clearer. But in the case for pure clean electric mass transit is stronger than ever today-- regardless of the energy crisis. With on-vehicle fossil fuel running we may (only"may") be saving fuel and money, but at the price of our health and very lives being choked off by air and noise pollution. Pure electric mass transit is the only sure answer for a cleaner , healthier environment.

No matter how the efficiency argument comes out, our lives are on the line. I simply must as the slogan has it, **"TRAVEL UNDER WIRE,NOT WITH FIRE"** in my further opinion , any mass transit agency that does not advocate installing pure electric mass transit systems, and above all does not listen to the demands of the riding public, has what I would call " A public be damed attitude" Sound familiar? At my company we are all orientated to have a customer first attitude. I enjoy that attitude. It gives me a sense of complete satisfaction for my work.

**Miss Paula Walach - Industrial Electrician, and employee of the Gillette Company,
Boston, Mass USA**

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Adams, Karen K NAE

From: Seth Kaplan [SKaplan@clf.org]
Sent: Wednesday, February 23, 2005 4:47 PM
To: Energy, Wind NAE
Subject: Cape Wind Project - Comments of Conservation Law Foundation

Please find comments attached. Contact me any time with questions.

003992

Seth Kaplan, Senior Attorney
Conservation Law Foundation
62 Summer Street
Boston MA 02110
(617) 350-0990 ext. 721 (voice)
(617) 350-4030 (fax)
skaplan@clf.org (email)
www.clf.org (web)

2/24/2005



Conservation Law Foundation

February 23, 2005

Col. Thomas L. Koning
District Engineer
United States Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742
Attn: Karen K. Adams

RE: Cape Wind Energy Project, Reference File NAE-2004-338-1

Dear Colonel Koning,

Please find enclosed the comments of the Conservation Law Foundation regarding the Cape Wind project Draft Environmental Impact Report.

We believe that the regulatory review process should proceed forward with preparation of a Final Environmental Impact Report and Statement. This process should be informed by creation of a science advisory committee that can provide guidance regarding questions where this embryonic and developing industry and technology is still gaining experience, including the avian impacts of offshore wind facilities.

One of the key charges for this committee should be to formulate a robust and effective monitoring program that can shape appropriate adaptive management of the project after it is built and provide answers to questions that simply can not be answered prior to construction and operation of the facility.

The task of siting the quantity of utility-scale renewable energy projects in New England that are necessary to offset our own regional fossil fuel emissions to the atmosphere will not be cost-free to the environment or to the quality of our lives. On the other hand, that same quality of life will inevitably be altered at a scale and with consequences that can hardly be imagined unless we act to take all responsible actions to bring renewable wind energy to the region now.

CLF is committed to the timely and responsible development of significant renewable energy resources in New England. We believe that such sources can be developed in ways that minimize the impacts to the region's native flora and fauna and as well as its quality of life. The Cape Wind Energy Project gives CLF and the region its first credible opportunity to struggle to achieve this outcome. We look forward to working with the Corps, Cape Wind Associates, and the science advisory committee to address our concerns more fully both in the coming months.

Sincerely,

Philip Warburg
President, Conservation Law Foundation

cc: Secretary Ellen Roy Herzfelder
Governor Mitt Romney
Attorney General Thomas Reilly
Margo Fenn
James Gordon

62 Summer Street, Boston, Massachusetts 02110-1016 • Phone: 617-350-0990 • Fax: 617-350-4030 • www.clf.org

MAINE: 14 Maine Street, Brunswick, Maine 04011 • 207-729-7733 • Fax: 207-729-7373

NEW HAMPSHIRE: 27 North Main Street, Concord, New Hampshire 03301-4930 • 603-225-3060 • Fax: 603-225-3059

RHODE ISLAND: 55 Dorrance Street, Providence, Rhode Island 02903 • 401-351-1102 • Fax: 401-351-1130

VERMONT: 15 East State Street, Suite 4, Montpelier, Vermont 05602-3010 • 802-223-5992 • Fax: 802-223-0060

**CONSERVATION LAW FOUNDATION COMMENTS
ON THE CAPE WIND ENERGY PROJECT
U.S. ARMY CORPS OF ENGINEERS REFERENCE FILE NAE-2004-338-1
FEBRUARY 23, 2005**

The Conservation Law Foundation (CLF) is pleased to submit these comments on the Draft Environmental Impact Statement / Draft Environmental Impact Report / Development of Regional Impact ("DEIS/DEIR/DRI" or "DEIS") for the proposal by Cape Wind Associates LLC ("Cape Wind") to construct a utility-scale wind turbine installation in Nantucket Sound ("Cape Wind Energy Project" or the "project").

In the controversy that has surrounded Cape Wind's proposal to date, heated debate has revolved around legal and aesthetic issues. Other efforts to promote wind power in Nantucket Sound have been launched based solely on the obvious crisis presented to this region by our extravagant and unsustainable combustion of fossil fuels. Climate change issues are, indeed, an essential part of the understanding the environmental and social benefits of wind power projects such as Cape Wind's and we begin our comments with a presentation of some of these broad contextual issues.

The specific task at hand is *not* an evaluation of the evidence for global climate change or the need for wind power *per se*; those, unfortunately, appear to be givens for New England at this stage. These comments, rather, are part of a critical review of the draft of an environmental impact statement so that a Final EIS can be produced that supports an informed decision about the impacts and alternatives associated with this project. CLF believes that this task must be born in mind as the community moves forward with the review of this project. We contribute these comments to the review process in that spirit.

I. Introduction

CLF is a public interest advocacy organization that works to solve the environmental problems that threaten the people, natural resources and communities of New England. Founded in 1966, CLF is a nonprofit, member-supported organization. CLF promotes clean, renewable and efficient energy production in New England and has an unparalleled record of advocacy on behalf of the region's marine environment and the scenic qualities of Cape Cod and the Islands. As part of its 40-year legacy in this region, CLF has prevented drilling for oil and gas on Georges Bank, led the legal effort to clean-up Boston Harbor and other major coastal estuaries, fought to reduce damaging off-road vehicle use on the beaches and dunes of the Cape Cod National Seashore and successfully advanced legal strategies to restore groundfish to the Gulf of Maine and southern New England waters.¹

¹ *Conservation Law Foundation v. Clark*, 594 F. Supp. 1373 (D.Mass. 1984); *Conservation Law Foundation v. Secretary of the Interior*, 790 F.2d 965 (1st Cir.1986); *Conservation Law Foundation v. Clark*, 590 F. Supp.14 67 (D.Mass 1984); *Conservation Law Foundation v. Metropolitan District*

Our goal in these comments is to offer perspective, insight and practical suggestions on a variety of important topics that should be at the core of the review and permitting process for this critical renewable energy project. The contextual backdrop to CLF's consideration of the Cape Wind Energy Project is the imperative need to evaluate this project in the larger context of the global crisis of climate change, a context that includes overarching environmental, public health, energy policy, legal and regulatory considerations that are not present with most other development projects. To the degree that New Englanders fail to understand and act effectively on the crisis presented by climate change, the regional ecosystem that New Englanders have experienced throughout human history could be irrevocably changed. To pretend that any of these contextual considerations do not exist would be an abdication of the responsibility the living generations have as stewards of this regional resource.

It is especially important for New England to address the forces that are driving climate change, because New England is both a major source of the climate change problem *and* likely to be affected dramatically by it. According to the National Environmental Trust, Massachusetts alone emits more greenhouse gases than 72 developing countries with a combined population of more than 300 million people.² Since 1970, New England's total energy consumption has increased by 23%, about 1% per year, despite the expansion of energy conservation programs.³

To meet the challenge of reducing fossil fuel emissions and the associated threats to public health and the global climate, New England must immediately embrace the process of bringing sources of clean energy into the region. The Cape Wind Energy Project provides a chance to begin this process, providing the region's first major source of wind energy-based power production and the opportunity to obtain experience that will allow the region to more rapidly build a full portfolio of clean energy facilities that is needed. If built, the Cape Wind Energy Project should be both a rich source of clean energy and a source of essential new information for guiding future projects.

II. The costs and benefits of the Cape Wind Energy Project must be evaluated in a larger environmental and social context.

A. The Environment and Public Health Context

The world is in the midst of a fundamental ecological crisis flowing from the unsustainable dependence on and combustion of fossil fuels; extravagant and polluting patterns of energy consumption, particularly in the developed world; and the deep, ubiquitous and systemic damage to the environment and public health that is resulting

Commission, 757 F. Supp. 121 (D.Mass 1991); *Conservation Law Foundation v. Evans*, 209 F. Supp.2d 1 (D.D.C. 2001); *Conservation Law Foundation v. Evans*, 203 F.Supp.2d 27 (D.D.C. 2002); *Conservation Law Foundation v. Evans*, 211 F. Supp.2d 55 (D.D.C. 2002).

² National Environmental Trust, *First in Emissions, Behind in Solutions*, 2002, p. 35.

³ New England Council, *New England Energy Supply & Demand: 2001 Report & Agenda for Action*, Polestar Communications & Strategic Analysis: Boston, MA, 2001, p. 5.

from our energy choices. The combustion of fossil fuels to power our life styles and our economies is at the heart of the problem. Recent scientific estimates conclude that actions must be taken to reduce anthropogenic sources of these gases within 10 years to avoid natural climate change sequences from initiating, which may well be beyond our ability to control thereafter.

This is a crisis that will not be resolved simply by improved “end-of-the-pipe” technology solutions or bandaged approaches. The answer requires significantly increased conservation and efficiency in homes and buildings as well in our transportation systems at all scales of human organization. The answer also requires the development of significant sources of non-polluting renewable energy. These responses must be immediately implemented.

The symptoms of this fossil fuel-driven crisis are already present on and around Cape Cod and the nearby islands, the proposed site of the Cape Wind Energy Project. Cape Cod suffers from some of the worst air quality in the entire New England region during the summertime. Sunlight and heat catalyze air pollution from distant and local power plants and from cars, turning these vapors into the searing ground level ozone that prompts public health warnings for vulnerable populations to restrict their activities. Increased storm activity and severity which are associated with the early stages of the climate change phenomenon place all south-facing sandy shorelines of the Cape Cod region at heightened peril to erosion.

The very physical shape and present contours of Cape Cod and the islands of Nantucket Sound and Buzzard’s Bay, not to mention the hundreds of millions of dollars of private and public investment associated with these shorelines, are threatened by the relentless rise of sea levels. Numerous local scientists associated with distinguished institutions of international repute, such as the scientists of Cape Cod at the Woods Hole Oceanographic Institution, the Woods Hole Research Center and the U.S. Geological Survey research center in Woods Hole, are included in the ranks of those who have concluded that immediate actions need to be taken at all levels to avert the worst potential consequences of climate change.⁴ While some of the south-facing beaches of Cape Cod may well be the area that would experience the greatest aesthetic impact of the proposed project, these same beaches are the “south facing outwash plain” that has been identified by scientists as particularly vulnerable to sea level rise.⁵ These resource areas, which are so uniquely at risk to extensive climate change damage, are critical both to the world-famous recreational aspects of this area as well as to the ecological characteristics that make these beaches critical habitat to several endangered bird species.

Moreover, the migratory bird species that are understandably the subject of so much concern in the review of the Cape Wind Energy Project are greatly dependent on the stability and health of ecosystems in many other parts of the world that are already experiencing wrenching transformation as the climate changes. These critical habitats

⁴ See, e.g., Graham S. Giese and David G. Aubrey, “Loss of Coastal Upland to Relative Sea level Rise,” *Coastal Brief*: 1994-02, Woods Hole Oceanographic Institution, Coastal Research Center.

⁵ *Ibid.*

will see far worse alterations as global warming continues.⁶ This fundamental ecological context is what sets the environmental review of the Cape Wind Energy Project apart from virtually any other development project that CLF has reviewed. It is a context that cautions against using narrowly drawn perspectives or conclusions.

If the DEIS for this project has one fundamental shortcoming from CLF's perspective, it is its failure to spell out with specificity the public health and climate change consequences of continued failure to immediately reduce greenhouse gas emissions by aggressive use of conservation, fuel-switching, end-of the-pipe reduction technologies, renewable energy development, and efficiency investments. This fundamental context, on which so much of what all New Englanders hold precious depends, should be more clearly described in the Final EIS and considered in the ultimate decision-making and public interest evaluation process.

B. The Energy System Context

Motivated by a variety of concerns, Massachusetts and, to a lesser degree, the federal government have made fundamental decisions about the direction of energy policy and development. Massachusetts has charted a clear policy direction in favor of the development of renewable energy sources through the creation of the Renewable Portfolio Standard⁷ along with launch of the Massachusetts Renewable Energy Trust.⁸ Congress has provided the much smaller and recently renewed incentive of federal Production Tax Credits for renewable energy.⁹ It is also noteworthy that a significant regional multi-state initiative going beyond New England is underway to control greenhouse gas emissions from electricity generation throughout the entire northeastern United States.¹⁰ The project under review in this process represents a positive, even hopeful, response to these policies: a private facility being built to supply electricity from a renewable source.

The policy choice to provide incentives for renewable energy was made not only with the ecological perspectives noted above in mind, but also in order to buffer ratepayers and the Massachusetts economy from the chaos and economic pain that fluctuations in fuel prices will continue to bring to our energy markets. The U.S. Energy Information Agency has forecast that a serious national commitment to renewable energy would yield \$9.1 billion in savings on natural gas bills and \$4.4 billion in savings on electricity bills over a 20-year period.¹¹ This conservative estimate highlights the critical importance to the economy that renewable energy programs can make and the importance of getting this precedent-setting decision in Nantucket Sound right. We believe that this context should be more clearly, plainly and effectively presented in the Final EIS, by

⁶ See generally, documents at <http://www.acia.uaf.edu/>.

⁷ See generally, 225 Code Mass. Regs. 14.00.

⁸ See generally, Mass. Gen. Laws c. 40J § 4E.

⁹ 26 U.S.C. § 45.

¹⁰ See generally, www.rggi.org.

¹¹ EIA, Impacts of a 10-Percent Renewable Portfolio Standard, SR /OIAF/2002-03. February 2002.

explicit identification of how the project advances significant energy policy goals articulated in state and federal statutes, regulations and executive orders.

Moreover, the DEIS accurately notes that “under the No Action Alternative, or if the permit is denied, it is likely that commercial development of offshore wind power in the United States, at a comparable size and scale of that proposed by the Applicant, will not advance significantly.” DEIS at 3-27. Significant wind power development has occurred in areas of the United States such as the Midwest and Texas where large areas of private lands are available and useable for this purpose. Similar opportunities in New England are rare and are not readily connected to the power distribution network.

The Cape Wind review will likely establish a precedent for future reviews of offshore wind projects as well as wind-powered energy projects on federal land. Given that the policy choice noted above looks to the private market to advance the renewable energy initiative, development barriers have to be set at reasonable levels and must acknowledge that many of the first marine projects will move forward with less than perfect information or scientific assessments of the interactions between the projects and important marine and coastal mammal, fish and avian species. The responsible course of action, given the climate change imperative driving renewable projects such as the Cape Wind Energy Project, is to ensure that a credible and thorough environmental review analysis has been done to ensure that risks and benefits of the project are as clearly identified as possible given the developmental stage of technology.

If such analysis concludes that it is environmentally responsible to move the project forward given both the specific project impacts as well as the larger ecological context to which renewable projects are responding, the project should be moved forward. However, it should be conditioned to insure the collection and analysis of monitoring data as necessary to minimize environmental impacts of the project and to allow improved reviews and decision-making with respect to future projects. Indeed, the sobering truth is that in order to meet critical objectives for reducing emissions of CO₂, SO₂, NO_x and other pollutants in New England, the region must develop a number of onshore and offshore utility-scale wind facilities. The pioneering Cape Wind Energy Project, if properly executed, could provide information essential to reaching the regional objective in a timely manner. As the accuracy and scope of this information would provide significant public benefits beyond those to the individual wind project itself, CLF concludes that it is appropriate and necessary for government and other stakeholders in the wind industry to assist in the financing, design and oversight of systems for data collection.

C. The Regulatory Context

CLF has followed the Cape Wind Energy Project very closely since it was first announced nearly three years ago. In April of 2002, CLF submitted detailed comments on the proposed scope for the Cape Wind DEIS/DEIR/DRI. In May of 2002, CLF submitted comments urging approval of Cape Wind’s application for an Army Corps of Engineers “Section 10” permit for construction of a Scientific Measurement Devices

Station (“SMDS” or “data tower”) that would supply important data for the review of the proposed Cape Wind Energy Project itself.

CLF has invested considerable research and analysis into the legal, regulatory and permitting questions raised by the Cape Wind Energy Project and by the fact that the project would be located in federal waters. In a November 7, 2002 letter, CLF, joined by several other environmental groups, responded to concerns raised by Massachusetts Attorney General Thomas F. Reilly about the sufficiency of the Army Corps of Engineers’ (“Corps” or “ACE”) Section 10 permitting. In that letter and in subsequent congressional testimony¹² as well as in *amicus curiae* briefs filed in the Federal District Court for the District of Massachusetts¹³ and in the First Circuit Court of Appeals,¹⁴ CLF has defended the adequacy of the Section 10 review process and the environmental review requirements of the National Environmental Policy Act (“NEPA”) to identify and assess the Cape Wind Energy Project’s potential benefits and adverse impacts.

While CLF strongly believes that an integrated, ecologically-informed ocean management approach for federal and state marine waters is needed and that a comprehensive permitting framework for offshore renewable energy development is desirable, CLF strongly disagrees that a moratorium is necessary or prudent on offshore wind development pending enactment of a new framework for managing offshore wind development. Renewable energy is urgently needed in order to offset harmful fossil fuel emissions that pollute the air, cause global warming and damage the public health. A moratorium does more long-term harm than good for New England. The review process currently underway with the Cape Wind Energy Project can meet the challenge of responding in a timely and appropriate manner to the larger environmental and energy policy context while staying true to the essential mission and function of the existing statutes and regulations that guide the process.

III. Specific Comments on the Draft EIS

CLF’s staff have identified specific gaps and concerns about the data and analysis presented in the DEIS that we presently believe need to be addressed before federal decision-makers can be determine whether the project can move forward in an environmentally responsible manner. These issues should be resolved and addressed in the Final EIS prior to the issuance of any permits. We have identified other issues that we believe can be properly addressed and managed after permit issuance. All regulatory issues that are dealt with through post-permitting mechanisms and conditions need to be the subject of clear statements regarding what those mechanisms will be. CLF’s experience with many large-scale projects is that it is possible to create effective post-

¹² Testimony of Peter Shelley of the Conservation Law Foundation on behalf of the Conservation Law Foundation, the Union of Concerned Scientists, Natural Resources Defense Council, and Environmental Defense, before the Subcommittee on Energy and Mineral Resources, Concerning HR 793, A Bill to Amend the Outer Continental Shelf Lands Act, March 6, 2003.

¹³ *Alliance to Protect Nantucket Sound v. U.S. Dept. of the Army*, C.A. NO. 02-11749 JLT (D.Mass.), Brief of Amicus Curiae Conservation Law Foundation, Jan. 15, 2003.

¹⁴ *Alliance to Protect Nantucket Sound v. U.S. Dept. of the Army*, Docket No. 03-2604 (1st Cir.), Brief of Amicus Curiae Conservation Law Foundation, May 19, 2004.

construction monitoring and management programs for complex projects if the program requirements are well-designed, executed and enforced. It is also all too easy to find examples in our region where post-permitting monitoring and management programs have failed to protect the public interest and avoidable environmental harms have occurred. To avoid the latter situation, we make suggestions below such as the creation of an independent science advisory board to oversee development of this project and to ensure that legitimate environmental concerns are identified and addressed in a timely and responsible manner during and after construction.

A. The DEIS does not adequately address the dangers of climate change and the benefits of renewable energy.

The discussion of project benefits in the DEIS is scattered throughout the document, in many cases buried toward the end of the Corps' consideration of potentially adverse impacts in Section 5 of the document. This is confusing and CLF urges the Corps to include a prominent separate section on "Project Benefits" in the Final EIS, either within or immediately following the section on "Project Purpose and Need." Such section should describe the importance of the project in terms of furthering the deployment of renewable energy.

The substantive discussion of project benefits is too cursory and should be expanded in the Final EIS in order to give the reader an understanding of the substantial advantages of advancing this renewable energy project. This is especially true with respect to the interaction between the project and emissions from other forms of electricity generation, particularly with regard to the local fossil fuel power plants that would be displaced, i.e. not dispatched, as a result of the operation and generation of the Cape Wind Energy Project.

An understanding of climate change, also known as "global warming," is essential to assessing the significant potential benefits of utility-scale renewable energy projects such as the Cape Wind Energy Project, and to balancing the potential environmental costs of the project with the corresponding environmental benefits of the project to the environment and public health. Unfortunately, the DEIS contains only very little information about climate change and the importance of utility-scale renewable energy projects in reversing the global warming phenomenon. DEIS Section 5.15 does address "Air and Climate," but it addresses the problem of climate change – and the corresponding potential benefits of the Cape Wind Energy Project – in an unfortunately cursory manner. The Final EIS should include a prominent discussion of climate change and the benefits of renewable energy. This discussion and analysis should be in a "Project Benefits" section.

1. The fundamental challenge of global warming

The discussion of climate change in the Final EIS should note that the U.S. federal government, in its 2002 "Climate Action Report," has acknowledged the existence of global warming and made a commitment to curb greenhouse gas

emissions.¹⁵ More recently, a Pentagon-commissioned report predicted a “plausible” scenario of abrupt climate change in which resulting “food, water, and energy resource constraints will first be managed through economic, political, and diplomatic means,” but that over time, “conflicts over land and water use are likely to become more severe – and more violent.”¹⁶ The November 2004 release of the Arctic Climate Impact Assessment revealed to the world dramatic findings and predictions about Arctic warming – including the fact that climate change is *now* affecting the Arctic, and that at least half of the summer sea ice in the Arctic is projected to melt by the end of this century, significantly contributing to further warming, global sea level rise and habitat losses.¹⁷

The need to act now to combat climate change has also been recognized at the regional and state level. In 2001, the Conference of New England Governors and Eastern Canadian Premiers acknowledged that greenhouse gas emissions must be reduced from current levels by 75-80% to eliminate the threat of climate change and issued a regional climate action plan.¹⁸ In the spring of 2004, the Commonwealth of Massachusetts released its own state-based plan, known as the “Climate Protection Plan,” for reducing greenhouse gas emissions and promoting energy efficiency to combat climate change.¹⁹

Indeed this pressing and preemptive need to address the CO₂ emissions causing global warming is already a prime mover behind state energy and environmental regulatory policy, as the Department of Environmental Protection of the Commonwealth of Massachusetts noted in support of its groundbreaking rules regulating CO₂ emissions from coal-fired power plants:

To avert dangerous climate disruption, the IPCC states that the current global emissions of about 6 billion tons carbon equivalent, now projected to increase to about 20 billion tons by the end of this new century, would have to decrease to less than three billion tons by that time. Even then, the carbon equivalent in the atmosphere would reach about 450 parts per million, about 60 percent above pre-industrial levels, which would still entail some climate change, sea-level rise, and ecological impact.²⁰

Recent international processes have highlighted the essential need for industrialized nations, like the United States, to address this crisis by, among other

¹⁵ U.S. Dept. of State, *The United States of America's Third National Communication Under the United Nations Framework Convention on Climate Change* (May 2002).

¹⁶ Peter Schwartz and Doug Randall, *An Abrupt Climate Change Scenario and Its Implications for United States National Security*, October 2003.

¹⁷ ACAI, *Impacts of a Warming Arctic: Arctic Climate Impact Assessment*, Cambridge University Press, 2004.

¹⁸ New England Governors/ Eastern Canadian Premiers, *Climate Change Action Plan 2001*, August 2001.

¹⁹ Commonwealth of Massachusetts, *Massachusetts Climate Protection Plan*, Spring 2004.

²⁰ STATEMENT OF REASONS AND RESPONSE TO COMMENTS FOR 310 CMR 7.00 et seq.: 310 CMR 7.29 – Emission Standards for Power Plants, April, 2001, <http://www.state.ma.us/dep/bwp/daqc/files/regs/finalrsn.doc>

measures, generating at least 25% of their electricity from clean, renewable and non-emitting resources like wind power.²¹

The statutorily prescribed energy policy of Massachusetts is clear in its direction to favor and build renewable energy. This energy policy is articulated through the regulatory mandate of the Renewable Portfolio Standard²² and the financial incentive mechanisms that flow from the Massachusetts Renewable Energy Trust.²³ The Climate Protection Plan unveiled by Massachusetts Governor Mitt Romney identifies the development of renewable energy as being a primary tool that must be used to address the fundamental threat to our environment posed by global warming: “access to cleaner energy supplies, including the building of renewable and green resources - from photovoltaic panels and wind generators to ultra-clean fuel cells - represents an important way to meet future energy needs while dramatically cutting carbon emissions.”²⁴

2. The impact of climate change on New England

Global warming has dramatic implications for New England’s weather and natural heritage. Conservative computer models suggest that within the next century, the climate of Massachusetts will resemble that of North Carolina or possibly Georgia. New England’s autumn foliage, maple syrup production and ski season will all become a distant memory.²⁵ Habitat areas that now support familiar wildlife species, including beloved songbirds and sought after fishes, will no longer be suitable and these species will move to new areas or perish.

While Section 3.3 of the DEIS describes conditions and impacts that could be expected if the Cape Wind Energy Project were not developed, far more can and should be said on this subject. This section of the DEIS highlights certain anticipated adverse effects of additional or expanded fossil fuel power plant facilities including:

- The visual landscape at one or more locations elsewhere in New England would change with the likely addition of one or more stacks and associated facilities from a natural gas-fired power plant. DEIS at 3-27.
- Local impacts to birds, fish and other resources would occur to a greater or lesser extent (depending upon resource and location) as the result of the development and operation of a fossil fuel power plant elsewhere in New England. DEIS at 3-28.

²¹ See, Recommendations of International Climate Change Taskforce, January 2005, <http://www.americanprogress.org/atf/cf/%7BE9245FE4-9A2B-43C7-A521-5D6FF2E06E03%7D/CLIMATECHALLENGE.PDF>.

²² See generally, 225 Code Mass. Regs. 14.00.

²³ See generally, Mass. Gen. Laws c. 40J § 4E.

²⁴ Massachusetts Climate Protection Plan, Executive Summary at p.10 (Spring 2004) (<http://www.mass.gov/oed/docs/MAClimateProtectionPlan.pdf>).

²⁵ See Conservation Law Foundation, *Heritage in Peril: New England and Global Warming*, p. 2-6 (and sources cited therein). Report available at <http://www.clf.org/general/index.asp?id=335>.

Notably absent from this list, however, are the observed and predicted environmental impacts of climate change in the New England region, including sea level rise and coastal degradation, for which utility-scale renewable energy projects are urgently needed. Among these impacts are the dislocation and wide-scale transformation of the bird species traditionally found on Cape Cod.²⁶ Similar dramatic and negative population shifts in commercial and non-commercial marine fish populations are anticipated with climate change.²⁷ The Final EIS should expand the list of anticipated environmental impacts of the No Action Alternative to include climate change impacts attributable to fossil fuel power generation. A direct impact of the No Action Alternative is the loss of the Cape Wind Energy Project's offset of about 1,000,000 tons per year of carbon dioxide emissions.

3. The positive impacts of the Cape Wind Energy Project on public health

Substantial reduction in fossil fuel power plant emissions and other pollutants is critical as a matter of public health. Air pollution causes thousands of premature deaths in New England every year, with a substantial and well-documented part of the mortality attributable to the region's old fossil fuel power plants.²⁸ Southeastern Massachusetts has New England's heaviest concentration of coal-fired power plants.

The DEIS contains a brief discussion of public health benefits and related cost savings of the Cape Wind Energy Project at Section 5.16.4.3, as well as a brief discussion of the adverse public health impacts and economic costs imposed by fossil fuel power generation at Section 5.16.3.3. Notably, the DEIS estimates beneficial health effects of the Cape Wind Energy Project to include a reduction of about 12 premature deaths, 20 cases of bronchitis, 200 emergency room visits, 5,000 asthma attacks, 15,000 restricted activity days and 35,000 respiratory symptom days. The cost savings of these reductions in health problems is estimated at \$53 million. These findings constitute significant project benefits, which should be included, along with the discussion of climate change, in a "Project Benefits" section recommended above.

Additionally, the DEIS fails to address the adverse health consequences of the No Action Alternative. As noted above, Section 3.3 of the DEIS describes conditions and impacts that could be expected if the Cape Wind Energy Project were not developed. The Final EIS should expand its discussion of the No Action Alternative to include health

²⁶ See Ivan Valiela and Jennifer L. Bowen, *Shifts in Winter Distribution in Birds: Effects of Global Warming and Local Habitat Change*, *Ambio* Vol. 32 No 7 (Nov. 2003).

²⁷ See generally, Donald F. Boesch, John C. Field, and Donald Scavia, *The Potential Consequences of Climate Variability and Change on Coastal Areas and Marine Resources: Report of the Coastal Areas and Marine Resources Sector Team*, U.S. National Assessment of the Potential Consequences of Climate Variability and Change. U.S. Global Change Research Program. NOAA Coastal Ocean Program Decision Analysis Series No. #21. NOAA Coastal Ocean Program. (Silver Spring, MD, 2000); Victor S. Kennedy, Robert R. Twilley, Joan A. Kleypas, James H. Jr. Cowan and Steven R.H are, *Coastal and Marine Ecosystems & Global Climate Change. Potential Effects on U.S. Resources*, Prepared for the Pew Center on Global Climate Change, 2002.

²⁸ See Jonathan I. Levy and John D. Spangler, *Modeling the Benefits of Power Plant Emission Controls in Massachusetts*, 52 *J. of the Air & Waste Mgmt. Ass'n* 5 (2002).

impacts attributable to fossil fuel power generation. Direct health impacts associated with a decision to not proceed with the Cape Wind Energy Project are attributable to the loss of Cape Wind's offset of nearly 1,000,000 tons per year of carbon dioxide emissions, 1,180 tons of nitrogen oxides (NO_x), and 4,000 tons of sulfur dioxide (SO₂). The indirect health impacts are much more far-reaching, as denial of a permit to the Cape Wind Energy Project may chill utility-scale renewable energy development in New England for years to come.

4. The positive impacts of the Cape Wind project to electricity consumers

Section 5.16.4.2 of the DEIS correctly documents the conclusions of the staff of the Massachusetts Energy Facilities Siting Board, based upon a study by La Capra Associates that the project would have a positive impact on electricity rates and costs across the region. The estimate of a total annual savings to ratepayers of approximately \$25 million per year for the first five years is significant and should be highlighted prominently in the "Project Benefits" section recommended above. It should also be noted that the cost savings estimate is very conservative and that actual cost savings are likely much higher. The La Capra study itself notes that its simulation used an assumed cost of fossil fuels that was lower than actual prices, which spiked in 2000, early 2001 and late 2002. Natural gas prices have continued to rise in 2003 and 2004. This trend suggests that La Capra may substantially have underestimated ratepayer savings.

The renewable energy that would be generated from the Cape Wind Energy Project is also needed for compliance with Massachusetts Renewable Portfolio Standards (RPS) obligations. Accordingly, the Final EIS should include, in its "Project Benefits" section, the satisfaction of near- to medium-term RPS obligations and the consumer cost savings associated with meeting the RPS standards. The Final EIS should also highlight the likelihood of higher consumer energy costs in the "No Build" portion of the Alternatives Analysis.

5. The positive impacts of the Cape Wind Energy Project on system reliability

Section 5.16.4.2 of the DEIS recognizes the fuel diversity and reliability benefits of the project, but fails to highlight the specific analysis performed by the U.S. Department of Energy (DOE) that is presented in Appendix 2.0-A. The Final EIS should cite to the DOE's specific findings regarding the added reliability that the proposed project would bring the regional electricity grid. In particular, the Final EIS should highlight DOE's conclusion that: "During the January 14-16, 2004 period of natural gas shortage, the Cape Wind Energy Project, if it had been constructed and was online, would have made a significant contribution to the power supply and reliability of the regional grid." DEIS Appendix 2.0-A at p. 7. The Final EIS should also include a discussion of the unique combination of "cold snap" factors that led to DOE's conclusion: high demand for gas for space heating during "cold snap" conditions; difficulty in operating a combined cycle gas plant during such conditions; economic pressure on such plants to sell gas for heating rather than burn it for electricity production; and the proven, high

likelihood that such conditions will coincide with peak operating conditions for the proposed wind energy facility.

B. Existing regulatory programs provide a sufficient legal basis for reviewing the Cape Wind Energy Project.

The specific regulatory context for the Cape Wind Energy Project has two critical frameworks. The first framework is the specific legal and regulatory structure for the permitting of the project. Below we present our perspective of that regulatory structure, both with regard to the federal review conducted by the Corps and the specific aspects of the state review. This perspective is necessary as a result of the unusual amount of disinformation and false controversy created around these existing regulatory mechanisms by project opponents.

The second framework for project review is more factual – the “nuts and bolts” analysis of the potential impacts of the project through the frame of the regulatory statutes, an analysis that we employ to shape and present specific recommendations regarding the specific further analyses, monitoring requirements and permit conditions that need to be developed by the regulatory authorities in order to move the project forward.

1. The permitting jurisdiction of the Army Corps of Engineers, NEPA, and the Section 10 “public interest review”

The DEIS in Section 7.2.2.1 correctly notes that the construction “of any structure in, over, or under navigable waters of the United States requires a Section 10 permit,” that the wind farm and the underwater transmission cables “are considered structures in navigable waters of the U.S.,” and, accordingly, that “Section 10 jurisdiction applies to the proposed project.” DEIS at 7-3. Notwithstanding the claims of project opponents, the Army Corps’ Section 10 authority *is not* limited to state waters, structures used for oil and gas mining, or to questions of navigability. CLF argued this point extensively in an *amicus curiae* brief in the Cape Wind test tower litigation, in which the Massachusetts District Court confirmed that the Corps’ Section 10 authority extends to all structures on the Outer Continental Shelf regardless of their purpose.²⁹

This Section 10 permitting process requires that the Corps engage in an extensive “public interest review” and act as the “lead” agency for a number of inter-agency review processes, most importantly an environmental analysis under the National Environmental Policy Act (“NEPA”). In conducting its “public interest” analysis pursuant to Section 10, the Corps must consider all factors that may be relevant to the proposal and then grant a permit unless, upon review, the Corps determines that the project would be against the public interest. Factors include “conservation, economics, aesthetics, general

²⁹ See *Alliance to Protect Nantucket Sound v. U.S. Dept. of the Army*, 288 F. Supp. 2d 64 (D. Mass. 2003). That legal conclusion was recently upheld by the First Circuit Court of Appeals. See *Alliance to Protect Nantucket Sound v. U.S. Dept. of the Army*, -- F.3d --, 2d 64 2005 WL 357,636 (1st Cir. Mass. Feb. 16, 2005)

environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership and, in general, the needs and welfare of the people.” 33 C.F.R. § 320.4(a)(1).

The Section 10 public interest review significantly overlaps with and guides the work of the Corps as the lead federal agency in the NEPA process. The Corps is required – based on quantitative and qualitative data supplied by the project proponent – to prepare an Environmental Assessment (“EA”) or an Environmental Impact Statement (“EIS”). 33 C.F.R. § 325, App. B. In this case, the Corps has determined that an EIS is required and engaged 16 other federal and state agencies in relevant review processes. The alternatives analysis is “the heart of the environmental impact statement.” 40 C.F.R. § 1502.14, *cited in* Sierra Club v. Marsh, 714 F.Supp. 539, 572-3 (D. Me. 1989). A proper analysis of alternatives requires the lead agency to be extremely careful in identifying the purpose of the project and evaluating alternatives that may or may not achieve that purpose.

Appropriate formulation of a project purpose focuses on the project need. The Army Corps of Engineers has determined that the purpose and need of the Cape Wind Energy Project is “to provide a utility-scale renewable energy facility providing power to the New England grid.” DEIS at 2-2. This formulation of need arises directly out of New England states’ laws and policies to stimulate renewable energy production.

Indeed, it is impossible to imagine that the challenge of the Regional Greenhouse Gas Initiative (mentioned above), which is attempting to fashion a “carbon cap and trade” program for electricity generating facilities in the Northeastern United States,³⁰ can be met without multiple facilities of this sort and scale coming on line in the near future. The preliminary baseline modeling for that process suggests that efficient economic operation of the regional power system (that maintains current positive trajectories for reduction in nitrogen oxide and sulfur dioxide emissions) will require the siting and building of roughly 4 Gigawatts (4,000 Megawatts) of wind generation in the near future.³¹ It is reasonable to assume meeting a carbon cap will require even more wind generation and that a significant percentage of this generation will need to be sited in New England, reinforcing the “purpose and need” determination in the DEIS.

The alternatives analysis presented in Section 3.0 of the DEIS is a solid and competent attempt at meeting this “purpose and need” determination and substantially responds to the issues identified in federal and state scoping documents (the Army Corps’ EIS scope of work and MEPA Scoping Certificate) in this critical area. This analysis, moreover, could be strengthened in the Final EIS.

2. Questions of renewable technology and site location alternatives

³⁰ See generally, <http://www.rggi.org>.

³¹ http://www.rggi.org/docs/prelim_results_11_12_04.pdf.

The DEIS comes to the sound conclusion that the only viable renewable energy technology currently capable of shouldering a utility-scale load is wind generation. The other renewable technologies presented and analyzed in Section 3.2.2 of the DEIS are important elements in building a clean energy future for Massachusetts, New England, the United States and the world, but they are not currently capable of fulfilling the function of providing large “utility-scale” energy generation in New England.

The DEIS could be improved by inclusion of a chart in the Final EIS that summarizes the different renewable energy technologies, clearly delineating technologies that are not suitable for large-scale centralized electricity generation (e.g., solar photovoltaics), technologies that can be operated on larger-scales but not on the scale of the proposed wind facility (e.g., biomass), technologies that are not yet ready for commercial operation in any significant measure (e.g., tidal power), and technologies that can produce substantial power in other regions but not in New England (e.g., hydroelectric or concentrated solar). Such a chart could also highlight the alternative renewable technologies with significant negative environmental impacts including air emissions (e.g., biomass) and habitat disruption (e.g., hydroelectric power). While such factors are not determinative in the initial screening analysis – where the key question is whether the technology can serve the stated “purpose and need” – they nonetheless remain important pieces of information.

Additionally, the Final EIS should more clearly explain the major technological leaps that will be needed to accommodate wind turbines in substantially deeper and/or stormier waters. As documented in Section 3.4.2.2.10 and Appendix 3-F, the proposed Cape Wind Energy Project would be close to the cutting edge of current technology in terms of water depth and wave heights. A more detailed explanation of the factors that will need to be overcome in order to pursue wind development in deeper waters, however, would be helpful. Such an explanation would detail the engineering issues associated with the stress of stormier waters on the towers, the operation and maintenance issues raised by more remote locations, and the significant issue of increased distance that transmission lines would need to traverse and the potential need to make use of direct current (“DC”) and/or advanced superconducting transmission infrastructures. The increased costs and dispatching implications for the power generated by such remote sites should also be developed.

The Final EIS should also provide updated information on wind resource mapping. The state of the art in this arena continues to advance and additional data that is in the public domain and/or is readily available from sources like the Massachusetts Renewable Energy Trust would buttress the analysis in the DEIS in this area.

The extensive location analysis in the DEIS that underlies the alternatives analysis provides some important insights worthy of mention. The assertions that the Massachusetts Military Reservation should be considered as a viable alternative to the proposed site (in the context of avian impacts as well as other questions) needs to be viewed both through the lens of the lower wind potential but also in terms of the plain statements from the military authorities who control that facility that wind development

at that site is not possible. See Appendix 3-L. The analysis of other locations provides strong evidence that the relative impacts of those sites are either greater or the feasibility is significantly lower in terms of meeting the project purpose and need.

3.Scope of state-level review process

As illustrated in the DEIS at Figure 7-1, the jurisdiction of Massachusetts agencies extends to the segments of the project that are overland and in state waters (up to 3 miles from shore). Thus, a portion of the submarine cable is subject to review by the Energy Facilities Siting Board (EFSB), the MEPA Office in the Executive Office of Environmental Affairs and the Massachusetts Department of Environmental Protection (DEP), among others. Installation, operation and maintenance of the wind turbines and the electric service platform will take place exclusively in federal waters and are not subject to state agency review. While Cape Wind has voluntarily submitted information about the entire project to MEPA to facilitate coordinated review, state permitting jurisdiction is limited to the segments of the project that affect Massachusetts land and waters: “The state permitting agencies ... must base their permitting decisions and Section 61 Findings upon the portions of the project within Massachusetts.” MEPA Scoping Cert. at 4-5.

It is also important to note that the MEPA process is *not* a permitting process. Rather, “it is a process designed to ensure public participation in the state environmental permitting process, to ensure that state permitting agencies have adequate information on which to base their permit decisions and their Section 61 Findings, and to ensure that potential environmental impacts are described fully and avoided, minimized, and mitigated to the maximum feasible extent.” MEPA Scoping Cert. at 3. The key state agencies with permitting authority are the EFSB, which must issue a permit, and DEP, which must issue a Chapter 91 Waterways license to authorize placement of the underwater transmission cable. CLF concentrates its comments here on the Chapter 91 process.

a.Chapter 91 Waterways Licensing

Under the public trust doctrine, Massachusetts holds shorelands in trust for use by the public. *Boston Waterfront Dev. Corp. v. Commonwealth*, 378 Mass. 629, 631-32 (1979) (discussing history of the public trust doctrine). Generally, the Commonwealth’s public trust authority and obligations are set out in M.G.L. c. 91. *Fafard v. Conservation Commission of Barnstable*, 432 Mass. 194, 200 (2000).³² Chapter 91 does not bar development on public trust tidelands. Rather, it sets out a test for determining whether the development should be allowed. M.G.L. c. 91 § 2. If DEP determines that the use is water-dependent, then it is presumed to serve a proper public purpose and is authorized. Water-dependent uses are defined in the statute, M.G.L. c. 91 § 1, and in the waterways regulations, 310 CMR 9.00 *et. seq.*

³² But these provisions are not “precisely coextensive with its authority and obligations under the public trust doctrine.” *Id.* at 200.

The waterways regulations require DEP to determine that a use is water-dependent “upon a finding that said use requires direct access to or location in tidal or inland waters, and therefore cannot be located away from said waters.” 310 CMR 9.12(2). Clearly, the transmission cable from the proposed Cape Wind Energy Project cannot be located wholly inland because it connects to an offshore wind energy facility located in federal waters. The core function of the underground cable is to transmit energy from an offshore facility to shore, by definition, a water-dependent use.

The cable also qualifies as water-dependent under a requirement that DEP must classify “any energy facility for which the proposed location has been approved by the Energy Facilities Siting Council” as a water-dependent use. 310 CMR 9.12(2)(c)(1). The term “energy facility” incorporates the term “infrastructure facility,” which is defined as a “facility which produces, *delivers*, or otherwise provides electric ... services to the public,” *Id.* (emphasis added). This construct necessarily includes an electric transmission cable that *delivers* electricity from an offshore generating facility.

C. Comments on specific environmental impacts identified in the DEIS

In the following section, CLF has identified certain key issues associated with the environmental review of the Cape Wind Energy Project. These comments are not intended to be exhaustive. Other commentors with more particular interests in specific areas will comment on issues that particularly apply to those interests. CLF has chosen to focus on those areas of potential or actual environmental impact that we judge to be the most significant in the environmental review process: the aesthetic and visual impacts of the project and the potential impacts of the project in its interactions with avian species, marine mammals, and marine fish. CLF commends the Corps and the project proponents for providing a fairly exhaustive, comprehensive and accurate picture of the range of potential environmental impacts from the project and reasonable alternatives to the project. In many instances, the level of scrutiny in the environmental review exceeds comparable projects with similar profiles but far fewer environmental benefits than the Cape Wind Energy Project.

Having said that, there are some areas noted below where further data and analysis is required in order to provide decision-makers with an adequate factual base for permitting and other regulatory decisions. There are other areas where existing data is limited and there are no reasonable approaches that will allow a better understanding of the potential interactions between avian and marine biota with the project in a timely manner. In other instances, there is no theoretical basis for understanding the adjustments marine and avian species will make in response to the towers. Should the project move forward, management and regulatory activities would have to develop adaptive approaches to any problems that emerge after construction.

1.P potential aesthetic and visual impacts

One of the most controversial issues regarding the alternative location analysis is the question of aesthetic impacts. There is no question that the proposed wind facility will have major visual impacts, simply by virtue of the fact that its structures will be visible from shore and from numerous boats that travel Nantucket Sound. The key questions from an environmental review perspective, however, are whether the DEIS adequately assesses the project's visual impacts, how those visual impacts compare to the visual impacts of the alternatives considered, and, on balance, how the visual impacts of the preferred alternative should factor into the Corps' Section 10 public interest analysis.

The aesthetics of wind energy facilities are subjective and present open-ended debates. There is even dispute about whether this question can even be aired in this context. As then-EOEA Secretary Bob Durand noted in the MEPA Scoping Certificate for the project, "Whether the wind turbine generator array will be beautiful or ugly has been hotly debated, but such a subjective issue lies beyond the scope of the environmental review process." MEPA Scoping Cert. at 10. CLF believes that the aesthetics issue is a proper subject of environmental review but notes that the environmental review process is not charged with resolving this aesthetic debate, except to the degree that there is an underlying substantive statutory standard to be applied. The NEPA process and related environmental reviews do provide a venue where such impacts and issues can be rigorously, clearly and accurately aired.

An exception to the general conclusion that the environmental reviews cannot readily characterize visual impacts as "positive" or "negative" arises in connection with impacts on statutorily protected aesthetic resources or resource areas, including historic properties. To the extent that visual impacts "may affect the specific characteristic(s) of the property, such as location, setting, or use that resulted in a determination of eligibility for listing on the National Register..." DEIS at 5-198, a finding of adverse impacts may be appropriate. In the present case, the "Area of Potential Effect" for visual effects includes historic properties from which there are open views of the wind turbines or components of the facility. DEIS at 5-173.

The visual impact assessment for historic properties recommends adverse impact findings for two of three National Historic Landmarks (including the Kennedy Compound, Hyannis, MA), four of five historic districts, and ten of twelve individual historic properties examined. See table 5.10.5. A Programmatic Agreement (see DEIS at App. 5.10-G) is being developed to address measures to minimize or mitigate adverse visual effects on historic properties. Since the Section 10 permit for the project will contain conditions to ensure implementation of these mitigation measures, (DEIS at 5-211) a final version of the Programmatic agreement should be included in the Final EIS for the project.

Like the analysis of the proposed project, the visual assessment of each of the four alternative sites proceeded from viewpoints of historic properties. Consequently, the DEIS met the standard presented in MEPA Scoping Certificate for the project that "the visual impacts on historic resources will capture a good sense of the overall visual impacts of the project." MEPA Scoping Cert. at 10.

It is essential, however, that the visual impacts of the project be judged in the proper context, that is, in terms of comparison to other alternatives. In terms of landside visual impacts only the deeper water site alternative south of Tuckernuck Island would reduce visual impacts associated with the proposed project. The Nantucket Sound alternative would generate equivalent visual impacts as the proposed project on Horseshoe Shoals. See DEIS Figures 3-54 – 3-63. The remaining two alternatives would involve placing turbines closer to shore and therefore would create greater visual impacts than the proposed project. While the DEIS points out that the Massachusetts Military Reservation alternative is the only one that offers partial visual screening from mature vegetation and topography, DEIS at 3-202, the Sagamore bridge viewpoint, located 0.8 miles from the closest turbine, DEIS 3-100 & Figure 3-53, demonstrates a dramatic, close-up view of some of the wind turbines that would be seen by travelers coming onto Cape Cod. Similarly, the New Bedford viewpoint, located 0.9 mi from the closest turbine, DEIS 3-102 & Figure 3-64, illustrates that the New Bedford sub-site would be far more visible than the project at its proposed location.

The visual simulations included in the DEIS are consistent with the scoping requirements for the EIS/EIR and follow standard methodology for visual simulations. As noted in the DEIS, the visual simulations present a conservative, “worst case” (i.e., most visible) scenario because the simulations “were conducted using clear sky conditions that maximize visual contrast, at locations with little or no visual screening from topography or intervening vegetation available” and because the simulations “do not take into account factors such as the blocking effect of the curvature of the earth ... or haze on the horizon.” DEIS at 5-198. Nonetheless, it is apparent that the visual aspects of this project represent a significant negative environmental impact of this project to some people, regardless of where it is located.

2.P otential biological impacts

a.Avian im _pacts

The DEIS evaluates the potential avian risks of a wind power project proposed for several alternative sites within Nantucket Sound, with particular focus on Horseshoe Shoals. This part of southern Massachusetts is used by a large number of birds from a diversity of species (roseate terns and piping plovers), including sea birds that winter in Nantucket Sound, birds that migrate through Nantucket Sound, and two endangered species that use Nantucket Sound for their reproductive season (May-September). Because of this fact, the assessment of the potential risks to birds is critically important and presents a formidable challenge. Important issues and approaches to risk assessment were identified during the scoping period, with input from leading ornithologists, an avian risk assessment (Curry and Kerlinger, 2001- Appendix 5.7-A of the DEIS), U.S. Fish and Wildlife Service, and comment letters from MA Audubon (13 Dec 2001) and from CLF (5 April 2002). A general synthesis of this guidance from the scoping process is reflected in the Corps’ *Scope of Work Notice* (June 2002).

The Corps and Cape Wind development team have put a substantial effort into addressing the extremely complex issue of avian risk assessment and the results of this effort are provided in the DEIS. This work is the leading compendium to date on avian activities in this region and is more exhaustive than any prior effort to understand the potential interactions between birds and development activities in southern Massachusetts. These materials are extensive and include 13 appendices, two of which specifically deal with wintering water birds, a total of three appendices dealing with birds during at least a portion of the winter period, and a radar study that examined flying birds during one month of spring and one month of fall migration. The analysis presented in the DEIS provides substantial new information on avian uses of the proposed project area, and Nantucket Sound more generally.

The analysis of potential avian impacts is further complicated by the experience at other wind turbine locations where some species have adapted their flight patterns and behaviors in the vicinity of similar wind turbines in ways that have reduced interactions between the species and the wind turbines. Theoretical calculations of risks based on current flight patterns, therefore, may overstate the “as-built” risks. CLF concludes, nevertheless, that further analysis is needed in the Final EIS to improve the characterization of potential bird mortality and allow an improved basis for sound decision making on this project.

A number of efforts have been made to synthesize the available information on experiences with wind turbine facilities and bird mortality from around the world (e.g. Everaert et al., 2002;³³ Report of the Convention on of European Wildlife and Natural Habitats on Wind Farms and Birds 2003; Winkelman 1995; NWCC, 2004³⁴). Impacts vary substantially from species to species and from site to site. Well-sited wind facilities can have a very low impact on birds; less well-sited facilities may kill large numbers of birds and, depending upon the species, these impacts could be significant in the context of the cumulative impacts to populations and population viability. Some of the types of sites that have proven problematic are sites that are near shorelines, particularly where there is a high frequency of local flights for foraging, mating and transiting between roosting and other sites (e.g. Winkelman 1995; Everaert et al., 2002). Nantucket Sound is surrounded by shorelines of various types and is heavily used by birds, including endangered species, for local flights to and from a multitude of destinations. Given these characteristics of Nantucket Sound, and experiences elsewhere, particularly close attention to the potential impacts to birds is warranted.

i. General comments on avian mortality risks

Because birds in flight use the same airspace as the proposed wind turbines, the potential for mortality is clear. The proposed 130 wind turbines will create a “rotor-

³³ Everaert, J. 2004. Wind turbines and birds in Flanders: Preliminary study results and recommendations. *Natuur Oriolus* 69: 143-155

³⁴ NWCC (2004) Wind turbine interactions with birds and bats: a summary of research results and remaining questions - *Fact Sheet*: Second Edition. National Wind Coordinating Committee, 2004.

swept zone” through which birds will fly at various times of year and times of day, with varied speeds and paths, and at varied heights. Some uncertain proportion of the animals that attempt to fly through these zones will be killed. Determining the likelihood that a particular bird species will enter these rotor-swept zones is not simple, since flight behavior varies with many factors. The diverse numbers of bird species in the area have flight behavior that depends on many factors including weather, wind direction relative to flight direction, time of day and year, age, and the presence or absence of the turbines themselves. Even the task of producing good mortality estimates is challenging because it requires knowledge of a species’ population size, an understanding of the specific role from turbine-induced mortality with respect to the cumulative impacts on the species from all mortality sources, and a weighing of the potential benefits to birds of substituting wind power for power generated with fossil fuels. At this stage in the development of wind power, our understanding of the interactions between birds and wind turbines is inexact and will be so for some time.

It is critical to bear in mind, however, that the fossil fuels that New Englanders and people who reside in the vicinity of the Cape Wind Energy Project are currently using to generate power – primarily coal and oil – also have a significant and well documented impact on birds directly and on the habitats used by birds and other wildlife. For example, the population of the sea bird that is most abundant in Nantucket Sound, the common eider, underwent a massive population crash in Massachusetts during World War II in response to an oil spill. (Burnett and Snyder 1954) Spills of oil being transported for power generation continue to be a major source of water bird mortality. For example, the *Bouchard No. 120* spill on April 27, 2003 in Buzzards Bay killed at least 450 protected birds and negatively impacted 90 miles of coastline.

The combined scale of this known source of mortality to avian species is orders of magnitude greater than any documented impact from a wind power facility. The mining of coal, acid precipitation, deposition of mercury and other metals, and global warming are all having serious impacts on forest habitat, breeding areas in the arctic, loss of estuarine habitat, and impacts to the aquatic life that serves as food for so many birds. Climate change will reliably alter whole ecosystems, eliminating resident and migratory bird populations that have been identified with New England throughout human history.

As discussed in the DEIS, wind turbine-induced bird mortality is usually small, and not sufficient to harm populations. For the sake of comparison, data combined for all of the U.S. indicates that mortality due to wind turbines is much less than that attributed to glass windows, domestic cats or hunting, each of which produces over a million bird deaths per year. In the cases where mortality is unusually high at wind facilities, it is due to some unfortunate aspect of the selected site.

Relatively high mortality in water birds has been observed in locations where turbines are situated in areas of high use, with lots of local flight activity (i.e. non-migratory flights; e.g. page 18 of Appendix 5.7-A). At a high use site near the Wadden Sea in the Netherlands, 14 to 50 bird deaths per year per turbine were observed, and most of these were water birds, including many sea ducks. (Winkelman, 1995) The present

project is proposed for an area that is heavily used by sea ducks and other birds, making high quality assessment of the risk important.

ii. Risks to roseate terns

Roseate terns are a federally endangered species that will have interactions with the Cape Wind Energy Project. The total species population is small, sub-populations of roseate terns breed at sites around Nantucket Sound and nearby Buzzard's Bay, and the entire North American population congregates in Nantucket Sound each year during migratory periods. Because there are potential roosting, staging, and feeding destinations in almost every direction from the proposed Cape Wind Energy Project site on Horseshoe Shoals, a number of these birds are likely to transit the proposed site frequently, and some of these transits may be through the rotor-swept zone of the proposed project.

The Final EIS should provide a better analysis of the likely interactions between the proposed project location and roseate terns, based on better estimates of the use of the preferred project area by these birds. Specifically, better analysis of data on tern flight altitudes and paths with respect to the project area is needed. In the absence of additional data, an improved risk analysis for the species may be able to be conducted based on known behavioral patterns. Much of the data presented in the DEIS is derived from survey methods that are relatively good for estimating abundance near the sea surface, but relatively weak for critically needed data on altitudes of flying birds. The Final EIS should provide analysis that would allow decision-makers to understand mortality risks and population viability risks based on credible estimates on the rates at which roseate terns might transit the proposed site at Horseshoe Shoals at altitudes high enough to be within the rotor-swept zone of the turbines. The critical time period for this particular analysis appears to be May to early June.

A second area of concern for potential impacts to roseate terns from this project stems from an absence of data on flight paths and altitudes for flocks of birds (1) departing in the fall for migration to South America and (2) returning to Nantucket Sound in the spring. Because there are management actions that can be taken to reduce or eliminate mortality risks during these concentrated periods of species concentration, i.e. temporary shut down of turbine operations, CLF believes that this information should be developed before operations commence in the event the project is successfully permitted. The protocol for doing so should be developed and identified in the Final EIS and made a binding condition of any permit issued for the project.

Finally, CLF is concerned that the roseate tern population viability analysis presented in the DEIS extrapolates population growth from a period of time in the past when the population was increasing at a rate that does not appear to have prevailed in recent years. In the Final EIS, the population viability analysis should reflect guidance from experts on this species, including those who have conducted field studies of these birds.

As noted above, the impacts of this project on roseate terns must also include the positive impacts that wind-powered energy production may have on roseate terns. Because the project will displace energy production that uses oil as a fuel, the project will reduce the known mortalities of these same species from oil spills. Estimates of oil-spill-induced mortalities in roseate terns should be included in the Final EIS. Moreover, if this project helps contribute to the larger strategy of reducing greenhouse gas emissions and slowing the consequences of climate change, this project will be helping to protect critical habitats of the roseate terns that will otherwise be virtually eliminated in Nantucket Sound by sea level rise, sea and air temperature shifts and prey shifts.

iii. Risks to sea ducks

The DEIS provides strong documentation of the well-known importance of the Nantucket Sound area for wintering sea ducks, including common eiders, long-tailed ducks and scoters (November to March). Combined, the number of sea ducks in the vicinity of the project site on Horseshoe Shoals may be near a million birds.

While the populations of these ducks are large with all the species subjected to recreational hunting, these species will also be killed by turbine blade strikes if the project is permitted. Better estimates are needed in the Final EIS of what these mortalities might be and when they might be expected to occur in order to allow decision-makers to reach reasonable conclusions with respect to the benefits and costs of the project. Improved data of these risks would also improve the ability to develop appropriate monitoring and mitigation measures for these species.

The long-tailed ducks are of particular concern as they are well known to make flights to and from external shoals from resting sites on the water in Nantucket Sound during darkness. They are also known to occasionally make flights high into the sky, ascending vertically from the sea surface. (Forbush, 1925) These flights have not been studied for the DEIS, and it is therefore difficult to relate their behavior to the rotor-swept zone of the project. A better analysis of the use of the intended rotor swept zone by sea ducks should be developed in the Final EIS and used as the basis of an improved estimate of expected mortality. Specifically, more information on duck flight behavior in and around Horseshoe Shoals during the winter period, when ducks fly to and from feeding areas in the dark, particularly an understanding of the near-darkness flight numbers, altitudes and paths, is important. This information and analysis is important to estimating potential risks for sea-ducks.

Since the behaviors of long-tailed ducks suggest that there is a mortality risk from the wind project, it is reasonable to consider how this mortality risk compares to estimates of this species' population size. The Final EIS should analyze this based on better data on the winter flights of this species, especially during the low-light and nighttime hours. This mortality estimate must then be related to the population estimate for long-tailed ducks for Nantucket Sound, which is approximately 180,000, based on the DEIS. The estimated mortality risk must also be evaluated against the numbers of long-tailed ducks that are killed in the NW Atlantic region annually by recreational hunters

(i.e. about 10,000). Turbine mortality estimates would need to be factored into the cumulative impacts to this population, but CLF has no reason to believe these mortality rates would jeopardize duck populations. Moreover, because the project will displace energy production that uses oil as a fuel, the project will reduce the known mortalities of these same species from oil spills. Estimates of oil spill-induced mortalities in sea ducks should be included in the Final EIS.

iv. Risks to migrating birds

The Final EIS should develop a more robust analysis of spring and fall bird migrations through the project area. Large numbers of land and water birds migrate through this portion of southern New England, including birds traveling to and from boreal forests of the north and the Arctic. At present, the DEIS suggests that hundreds of thousands of birds may pass through the intended rotor-swept zone of the project area on Horseshoe Shoals. The radar studies are too limited in their temporal scope, however, and the analysis of the existing radar data with respect to migratory bird migration could be improved. Higher quality radar analysis in the Final EIS would allow for the needed improvements in the evaluation of roseate tern and sea duck behavior, and would allow a more complete assessment of the uses of the rotor-swept zone by migrating birds during the fall and spring.

v. Construction design considerations

Design features for the underwater portion of the monopoles must take into account that increasing the abundance of fishes around the turbines could increase the mortality of fish-eating birds attracted to the site by an increased abundance of fish. The foundation system for the monopoles should minimize increases in available cover for fishes (e.g., spaces between rocks, or other supporting structures) since such increases in fish habitat will increase fish abundance and attract fish-eating birds. A well-designed monitoring protocol could produce the data needed to evaluate this issue.

vi. Avian monitoring and mitigation

The interaction of birds and turbines is complex and is determined by many factors including the presence of the turbine structures themselves. Under many circumstances, birds seem to avoid turbines, thus reducing risks significantly below that which might be predicted on the assumption that flight behavior in the intended project area will remain unchanged once the turbines are in place. Under other circumstances birds may be attracted to turbines, or at least be unable to avoid them. The task of determining what percentage of a bird species passing through a rotor-swept zone would in fact collide with a turbine blade is even more of a speculative enterprise and is the subject of disagreement and controversy amongst experts.

For these reasons, it is imperative that a strong plan for rigorous monitoring of bird mortality be developed if the Cape Wind Energy Project is permitted. The monitoring proposal in the DEIS is not strong enough. Data from effective monitoring

should be used to guide mitigation measures, and as a critical input to a responsible program for adaptive management during the life of the project.

Since experience with offshore wind is non-existent in this geographic region, careful thought must be given to experimental approaches that will allow the development of valid monitoring of avian impacts and mitigation measures. An independent scientific advisory team should be assembled to develop and oversee this program. The team should include individuals with experience studying impacts at the wind facilities that have been in operation for some years in Europe.

Methods for accurately sampling animals killed by impact at turbines, for rapid data analysis, and for use of that data to guide management must also be included, with particular attention to the challenge of data collection at the turbines during operation. Plans should include the testing and validation of a range of complimentary data collection approaches with particular focus on the difficult problem of reliable recording of mortality at offshore locations. Data collected from this public resource area should be made available to the public via the web.

b.Noise impacts

The presentation of information on acoustics, in Section 5.11 and in the various other sections where potential noise impacts are considered, should be improved in the Final EIS. It is strongly recommended that the Corps make reference to other analyses that have dealt with the complex issues surrounding ocean acoustics and impacts of construction sounds, including, for example, the EIS and associated technical reports from the Alaskan Northstar Project of BP Exploration, Inc. and the OEIS for the LFA program of the U.S. Navy. In the Cape Wind Energy Project DEIS, there is an over-emphasis on human hearing. The treatment of underwater acoustics and the biological impacts of underwater sounds should be improved. The discussion of acoustics in the Final EIS should not be dominated by measurement approaches that are suited to studies of human hearing, should avoid human perceptual terms such as *loudness* (Section 5.1.1), and should use physical descriptions that are appropriate to bioacoustics broadly - intensity, energy flux density and pressure.

Energy and intensity are very important measures when considering impacts on marine animals. Maximum pressure (L_{max} as stated in the DEIS) and equivalent pressure (L_{eq} as stated in the DEIS) do not provide a complete description. Section 5.11.2.1.

In each section of the Final EIS, the reference being used for the deci-Bell scale should be consistently indicated. In addition, information on analysis bandwidth should be provided in the discussions of potential acoustic impacts. According to the appendices, all analyses and modeling were done assuming that a human auditory system was most relevant, even under water (i.e. 80 Hz to 20 kHz). *Noise Report*, Appendix 5.11A. However, the Final EIS should evaluate potential impacts to great whales and fishes for which very low-frequency sounds are particularly important, and to dolphins and bats which rely on hearing in the ultrasonic range, well outside of the human hearing

range. Consequently, the anthropocentric acoustic characterizations in the DEIS are inappropriate and do not allow one to gauge the full range of potential impacts of the project on animals likely to be exposed to noise from the project.

The Final EIS should clearly indicate the frequency bandwidth in any discussion of sounds. When discussing potential impacts to animals, a description of the animal's auditory threshold (i.e. its audiogram) should be provided and the discussion should make it clear how the acoustic signals, whether from field measurements or modeling, relate to the hearing abilities of the animal, including bandwidth and thresholds. If data are not available for the particular species of concern, this needs to be made clear, and a justifiable surrogate species should be selected. Specific areas where the DEIS is weak include ultrasonic frequencies in air (see comments on bats) and ultrasonic frequencies underwater (see comments on protected marine species – dolphins in particular).

i. Atmospheric acoustics

In the Final EIS, the acoustic characterization of the wind turbines should include the ultrasonic range in which the auditory sensitivities of endemic bat species are highest. There is evidence that wind turbines can be a mortality source in bats (e.g. Scientific American, February 2004), and while it is not yet understood why these animals collide with turbines, one of the hypotheses is that the turbines are generating ultrasonic sounds that may be attractive to bats, or may interfere with the bat's sonar system. This type of risk could be quickly ruled out if it were demonstrated that the turbines are not ultrasonic sources. A great deal is known about the auditory sensitivity of bats, and this should be used to define the range of frequencies examined in the EIS. In the Final EIS, characterization of sounds produced during the operation of turbines should include frequencies out to 120 kHz. Turbines should be equipped with wind sensors that are not based on acoustic Doppler shift technology unless it is rigorously demonstrated that this technology does not impact any of the relevant species. Additional discussion of this topic is set forth below under our comments on bats.

ii. Underwater acoustics

The treatment of underwater sound in the DEIS needs improvement. The characteristics of the various underwater sounds expected during construction and operation of the facility are of particular importance for understanding the potential sound impacts on marine mammals. Well-developed recording and analysis methods are readily available for the characterization and quantification of underwater sound. However, in the DEIS, there is over-reliance on questionable acoustic models for predicting sound fields. The Final EIS should include better acoustic characterization of the site based on actual recordings and should include plans for on-site underwater recording during construction. For example, the DEIS characterizes sounds generated by jet plows based on subjective reports from human divers. Section 5.11.2.6 - Construction Impacts. This analysis should be improved for the Final EIS with existing data from field recordings, including calibrated sound spectra showing the acoustic signals generated by jet plowing, pile driving, and the steady state operation of the marine-based wind turbines. These

should be based on sounds recorded with hydrophones, and include analysis bandwidths relevant to the various marine life being considered. It is likely that such data are available.

The animals of primary concern for underwater acoustic impacts are those whose auditory systems are adapted to underwater life, not humans. The most serious category of potential noise impacts is that caused by *pile-driving* during an estimated construction period of 8 months. Section 5.1.1.1.6.1. These noises can pose a potential risk to the hearing and navigation of marine mammals and sea turtles. Such intense, broadband sounds certainly pose a risk of behavioral avoidance of the area. The DEIS fails to include considerations of the impact these responses might have on survivorship and reproductive success. The Final EIS should provide sound levels expected closer than 500 meters and should indicate the analysis bandwidth.

The analysis of pile driving sounds in the DEIS (Tables, pp 166-167) appears to be based on predictions derived from spherical spreading models ($TL = 20 \log R$), assuming a source level of 204 dB. The use of this kind of model in a shallow water environment like Horseshoe Shoals may not be justified and could lead to inadvertent exposure of marine life to dangerously intense sounds. There are now reasonably good, empirically validated models for shallow water sound propagation in the frequency range of interest here (<1000 Hz) in similar habitat types. Use of appropriate models will be essential when estimating the ranges out to which a noise from project activity will remain above some level of concern. Nevertheless, real-time on-site data from an array of hydrophones should be used for monitoring so that modeling errors will not lead to unacceptable noise exposures during construction.

Information on source levels (i.e. at 1 meter, 10 and 100 meters) should be added along with analysis bandwidth, and information on the auditory sensitivity of marine mammals and turtles. Even based on the current modeling in the DEIS (Figure 40, Appendix 5-11A), sounds in the 100 Hz to 1.0 kHz band will clearly be above the NOAA Fisheries threshold specified for risk to the hearing of marine animals at distances less than 500 m. In the Final EIS, the concept of thresholds for hearing risks to marine animals should be made more sophisticated by considering acceptable intensities within a range of bandwidths that are chosen based on the hearing of various species using the area. This should include a safety limit within the ultrasonic range used by dolphins. The Final EIS must include a more detailed and realistic plan for ensuring that these intense impact sounds are not produced when there are marine mammals or turtles within the 500 m *safety radius* (see additional comments under marine mammals).

In the DEIS, the definition of the safety radius rests on a 180 dB (re 1.0 μ Pa) threshold for injury. It is stated that 180 dB is “generally thought to be the threshold level for preventing injury in marine mammals in sea turtles,” with a reference to a letter from Patricia Kurkal, Regional Director of NOAA Fisheries. The Final EIS should include more discussion of what this 180 dB guideline means, where it comes from, and how it is meant to be applied to a range of marine mammals with vastly different hearing

ranges. It must be indicated what bandwidth is associated with this criterion, and what sort of integration time is intended when measurements are made.

iii. Acoustic monitoring protocols

There is a risk of auditory harassment and hearing damage to marine animals during the proposed eight month construction period. A simple, distributed network of underwater acoustic monitoring stations should be in operation throughout construction, operation and decommission phases of the project. This network should at least be used for three functions: (1) to increase the probability of detecting and identifying marine mammals in the area, (2) to monitor acoustic signal strength due to pile driving and (3) to halt operations if sound levels exceed thresholds at the perimeter of the safety radius (see below), or if rare or endangered marine species enter the area.

The Final EIS should include viable mechanisms to monitor for acoustic events that might put animals at risk and should identify an effective mechanism in place to mitigate should the monitoring system detect/predict the approach of an unacceptable level of risk. This risk assessment could logically be divided into subgroups as a function of the group members' auditory, physiological and behavioral parameters. Thus, for example, we already know enough about cetaceans to cluster them into groups that are low-frequency (< 1000Hz) and higher frequency (< 2-30 kHz) specialists, and we know about the likelihoods of occurrence for the species of concern. Sea turtles are in the low-frequency group and so are fishes. Pinnipeds would be in the higher frequency group.

The proposed monitoring system for sound level measurements proposed in the DEIS needs improvement in the Final EIS in order to adequately describe the spectral content of the sound field generated by the project's activities. The stated drops in RL for the European site do not give enough detail to allow proper interpretation. Furthermore, there must be a more serious effort to implement an adequate underwater acoustic monitoring system. This can be done using existing technology and will provide near-real-time data as part of the overall sensor system for monitoring. For example, the BP Northstar Project used hydrophones with seafloor recorders to monitor during periods of potential high impact. A system like this would probably be appropriate here. Such a system should provide feedback when hearing damage thresholds are exceeded with the safety zone, and guidance for an acoustic schedule for the "soft-start" plan for pile driving.

Underwater, hydrophone-based acoustic alert systems have been developed for detection of sounds made by whales and should be considered as part of the plan for monitoring for the presence of whales during construction. These systems can also be used to detect sound-producing fishes, and may be an aid to detecting breeding aggregations of fish. Plans for this type of monitoring should be developed in consultation with experts at NOAA Fisheries and appropriate science advisors.

The monitoring plan must also be improved to provide data on potential impacts while the facility is in operation for use in adaptive management responses.

iv. Safety radius (500 m)

The DEIS proposes use of a *safety radius* of 500 m to protect marine mammals and sea turtles during construction. Section 5.5.5.1.1. The area of the safety radius, about 1/3 of a square mile, is substantial. The Final EIS should develop more effective controls to ensure that the safety radius for noise exposure will be *safe* by including a strong plan for monitoring for animals of interest approaching and within this radius, as well as proposing a strong mitigation response once an animal comes within the safety exclusion zone. The DEIS indicates that one qualified NMFS observer will be stationed at the site during construction to monitor for marine animals of concern within the 500 m perimeter of pile driving sites. Depending on the scale of construction activities at any one time, this observation plan should be augmented by more on-site spotters in conjunction with the underwater acoustic monitoring system described above. This approach would allow for the early detection of marine mammal sounds (particularly of endangered species) and for monitoring the intensity of the sounds produced by construction activities (e.g., pile driving, vessel traffic). Any permits should be conditioned with a strong mitigation protocol for ensuring that intense noise production is halted immediately if and when these animals enter the radius. This protocol would include a number of modeling exercises predicting the potential exposures and risks to a representative suite of animals (mysticetes, odontocetes, pinnipeds, sea turtles and fishes). Such procedures have become standard components of Final EIS documents in which noise impacts are of concern.

The Final EIS should also discuss the benefits of the scheduling of pile driving with respect to periods of off-peak use by marine mammals and turtles. Pile driving should be scheduled only during time periods when the probability of marine mammals and sea turtles in the area is low. Data from NOAA Fisheries and other sources should be used to examine questions about scheduling and seasonal use of the area by marine animals.

c. Potential impacts to bats

The Final EIS should improve the analysis of the potential impacts to bats (DEIS Section 5.6.3.3) at the proposed Nantucket Sound site, particularly since there is no field data included in the document for the Nantucket Sound site, or any of the alternatives. The DEIS does include a reasonable summary of the ecology of the bats of the New England area, based on secondary sources. None of the bats expected in the area are federally listed as endangered species.

The potential impacts of the proposed wind turbine facility to bats should be considered carefully for several reasons. First, there are seven species of bats known in this part of southern New England, and at least one of these – the red bat – is known to make significant migratory flights, sometimes over coastal waters. Bats are nocturnal mammals that feed and migrate in flight, sometimes using the same airspace as wind turbines. Second, there are well-documented cases of mortality in bats caused by wind turbines at terrestrial sites (e.g. Scientific American, February 2004), with mortality as

high as approximately 43 bats/MW/year at sites in Eastern U.S. (NWCC 2004).³⁵ Mortality tends to be particularly high in red and hoary bats, both common in southern New England. Mortality is quite variable among sites that have been studied, suggesting that impacts are dependent upon the particular site and its role in the ecology of bats.

There has been too limited a characterization of any of the alternative sites for this project to allow any conclusions as to the specific risks posed by this project to bats, and there are no known migratory patterns over the proposed Horseshoe Shoal site, although it is likely that there is some transit activity. There are also a number of significant unknowns with respect to scientific understanding about the reasons for the known mortalities associated with bats and wind turbines. Further field studies at the site may not yield fully usable data because the presence of bats in the area, prior to erection of turbines does not necessarily mean that the bats would be impacted by turbines, and, conversely, the absence of bats in the area does not necessarily mean that bats might not be attracted to the area or killed by turbine blades once the turbines were erected.

While it is not known why bats collide with wind turbines, it is known that bats use a highly developed sonar system during their nighttime flying. Bats emit ultrasonic calls (30-80 kHz), and form images of their surroundings by analyzing the characteristics of sounds that return from their surroundings in the form of echoes. It is possible that mortality is due to some kind of failure of this system. Perhaps the echolocation system does not detect the turbines for some reason. If the turbines themselves produce ultrasonic sounds, this could result in interference (i.e. jamming) or be attractive to the bats. Unfortunately, the acoustics analysis in the DEIS (Section 5.11, and Appendix 5.11A) presently does not characterize sounds produced by turbines at frequencies in the ultrasonic range (i.e. above 20 kHz). The Final EIS should include these data so that one could evaluate the possibility that operating sounds produced by the turbines might contribute to bat mortality. In the description of the nacelle (Section 4.1.1.1), for example, it is indicated that a wind sensor will be included, yet no details are provided on the mechanism are provided. Wind turbines are often equipped with acoustic Doppler anemometers and the sounds produced could be audible to bats depending upon the frequencies employed. Since bats use sounds for echolocation and for communication with other bats, such ultrasounds produced by the towers may need to be eliminated to reduce impacts to bats.

CLF's view on this issue at this time is that the Final EIS must include a thorough characterization of the acoustic signals measured in air while wind turbines of the type to be used are in operation, including sounds in the ultrasonic range from 20 to 120 kHz. There should be existing field data on this issue. If the wind turbines require wind sensors or other active sensors, they should be based on technology that does not require production of sounds that are audible to bats. Acoustic Doppler anemometers should not

³⁵ Williams, W (2004) When blade meets bat unexpected bat kills threaten future wind farms. Scientific American, February, pp 20-21; NWCC (2004) Wind turbine interactions with birds and bats: a summary of research results and remaining questions - Fact Sheet: Second Edition. National Wind Coordinating Committee, 2004.

be used on the wind turbines. If they are essential, they should be placed outside the perimeter of the facility, on towers that do not have rotor blades.

The monitoring program described in the Final EIS should also require data collection at a number of test turbines distributed throughout the project area to characterize the interactions of bats with turbines at this site. Since bats, like most animals, exhibit distinct seasonal behavioral patterns, the above quantifications would need to be done during all seasons. In order to have confidence that data collected in a particular season on a given year, at least several replications of data collection would need to be done over a succession of years.

d. Potential impacts to fish and other marine life

CLF does not expect this project to have significant adverse environmental effects to most species of fish or crustaceans present in Nantucket Sound. There are several issues where the analysis in the DEIS can be improved and where construction protocols and monitoring measures are needed to avoid potential adverse impacts.

i. Construction and spawning periods

The proposed jet plow and horizontal directional drilling methods for bringing the submarine cables to the shore will cause disturbance to the bottom and some increased amount of sedimentation. Since sedimentation is known to increase mortality for fish eggs, these activities should be timed to avoid known spawning periods and to avoid spawning habitats. As well, the creation of trenches for the submarine cables can have a negative impact on the migratory patterns of some species. For example, the existence of trenches on the sea bottom may impede the seasonal migration of lobsters from offshore to inshore waters and back. The Final EIS should include information on spawning and migration periods and locations after consultations with NOAA Fisheries and the Massachusetts Division of Marine Fisheries, and propose a work schedule that will minimize impacts to reproduction and migration of fishes, crustaceans and other marine life.

Efforts should also be made in bringing the submarine cables to shore to minimize direct and indirect impacts on submerged aquatic vegetation ("SAV"). The DEIS does a good job of characterizing the mapped location of existing beds of SAV and the permits should be conditioned on requiring the submarine cable contractor to use divers and other approaches to bringing the cable ashore to minimize any SAV losses as the actual route is laid down.

ii. Electromagnetic fields ("EMFs") and marine life

The DEIS properly documents that the Nantucket Sound site is frequented by a number of elasmobranch fishes (i.e. sharks and rays), and that NOAA Fisheries considers the area essential fish habitat for four species. Table 3-15b. As noted in the section of the DEIS dealing with electromagnetic fields (Section 5.13), these fishes are known to be

exceptionally sensitive to low frequency electric fields (i.e. in the nV/cm range), and, indirectly, to magnetic fields due to induced currents. The section dealing with this potential interaction in the DEIS needs to be expanded to include a more complete recognition of the role of weak fields in the feeding and orientation biology of these animals and to recognize the possibility that artificial fields from cables could impact these animals. The effects of electric fields on those aquatic animals that have evolved electrosensory systems are profound and have been studied extensively. Information on the known detection thresholds should be included and related to the EMFs expected near the sea floor. These data should be included in the table on biological processes. Table 5.13-9.

While it is correct that the biological electroreceptors are most sensitive to near direct current, or “DC,” fields, like most sensors, they have a sensitivity curve that yields responses over a range of frequencies including 60 Hz. Data should be provided in the Final EIS that estimates the magnitude of the electric field near the buried cables and the spectrum of the electric field. While the fields generated are nominally 60 Hz, it is unlikely that the spectrum of the fields will be pure, and possible that there may, in fact, be DC components present. DC fields could result from galvanic fields associated with shielding or other materials in contact with the sea water.

Though a number of reasonable precautions have been taken to reduce the strength of EMFs in the sea water, they will not be eliminated and their actual characteristics will not be fully known until the system is in operation. The most probable influence of the weak EMFs is to cause some disorientation during feeding or navigation. Artificial EMFs can result in misguided feeding attempts in elasmobranch fishes. Animals migrating in the water (not in the air above) could also be disoriented by perturbation of the earth’s magnetic field. Other marine animals may also use the magnetic field for orientation. See Section 5.13.1.5.

The monitoring plan should include provisions for identification of both types of potential impacts, and plans for mitigation if the impacts are severe. Since the magnitude of the electric field drops exponentially with distance, structures that prevented marine life from approaching too close to the buried cable could solve these problems (e.g. a mound of gravel).

e. Other issues

The characterization of the geophysical and oceanographic conditions at the project site appears to be comprehensive, and the conclusion that the project will not have significant impacts on these conditions is well-reasoned and supported in the record. Issues with sediments suspended during the construction do seem more likely to be short-term and moderate to insignificant in most cases, particularly offshore. The chemical sampling does not indicate significant presence of chemical constituents that would present exposure risks to marine organisms. The DEIS relies heavily on sediment transport models to conclude that “the majority of disturbed sediments are expected to settle and refill cable trenches and areas immediately surrounding the trenches shortly

after installation (generally minutes to less than one hour...).” DEIS 5-18. However, even this model – which is based on assumptions of constant tidal currents and bathymetry (see App. 5.2-C) – predicts that there will be variation in transport across the project area with the highest levels of transport being in the shallow areas of the Sound and with “little potential for sediment transport along the deeper portions of the shoal, especially the east side.” DEIS 5-9.

The proposal to use anchored scour mats to address potential scouring and artificial habitat creation around the tower bases is innovative and appropriate. The Final EIS and any permits issued for this project should require post-construction inspection/monitoring of these mats over time, as well as a requirement to replace them with appropriate rip-rap if significant scouring occurs. In light of the uncertainties associated with sediment transportation in the project area and in Lewis Bay, CLF recommends that post-construction monitoring and remediation be required where necessary.

3.Re commendations regarding monitoring protocols and adaptive management practices

As stated above in reference to particular sections of the DEIS, a number of improvements can and should be made to the DEIS using existing or readily collectable data and analytical tools and approaches. To the degree these suggestions are pursued rigorously, CLF is hopeful that the Final EIS will be a responsible document on which the necessary federal decisions can be made.

At the same time, there is no escaping the reality that marine wind turbine facilities are an emerging technology and that the ecological information and modeling necessary to understand and manage the environmental impacts with projects like the Cape Wind Energy Project are still underdeveloped. The information available for the preferred site at Nantucket Sound indicates that the ecological impacts of the project could be relatively small. At the same time, there are a number of unknowns with respect to important marine and avian species and how they will interact with the project infrastructure. Substantial uncertainty with respect to a full characterization of all the reasonably expected environmental impacts from this project will remain, even after construction.

As a result, CLF believes that a properly conceived and well-designed environmental monitoring program will be critical to the success of this project. Such a program should be developed and described in the Final EIS before any permits are issued.³⁶

³⁶ While CLF expects that the monitoring protocols for this program will continue to develop over time as experience with this and other wind turbine projects is gained, a core program should be prepared at this time in order to insure that construction and operation of the project sets a positive precedent for offshore wind energy.

In coming to this understanding of the function and value of such an approach to the inherent project uncertainties with the Cape Wind Energy Project, CLF looked to other projects that presented clear environmental benefits on balance but where environmental impacts could not be fully anticipated or understood prior to construction. A prime example of such an approach in the New England region was the siting of the new outfall for the Deer Island sewage treatment facility, where new discharges of substantial quantities of freshwater and treated effluent were introduced for the first time offshore into Massachusetts Bay. An outfall monitoring protocol and Science Advisory Panel was established and overseen by the two permitting agencies overseeing that project, the U.S. Environmental Protection Agency and the Massachusetts Department of Environmental Protection. This monitoring program and oversight committee has provided a unique and objective approach to monitoring that project which might provide a useful template with regard to this project.³⁷

Monitoring for the Cape Wind Energy Project should produce credible information of sufficient scale to insure compliance with permit conditions, to minimize environmental impacts through adaptive management, and to improve planning and siting of future wind power projects. The Final EIS should be used to launch the development of such a monitoring regime by providing, as best as can be done at this stage, a delineation of specific adaptive responses that could be implemented to deal with environmental impacts that are judged to be reasonable possibilities at the chosen site. Such impacts might include, for example, impacts to a particular bird species, where the mortality rate is found to be sufficiently high to pose a threat to the population. Potential adaptive responses should include the option of short-term shut-downs if it is determined that a shut-down within a particular time window could substantially reduce population-level impacts. A reasonable budget for annual number of days allocated for possible use in such rare situations where a shut-down response is appropriate (e.g. a finite and defined number of days maximum per year) should be established, and utilized, if necessary, with guidance from the science advisory board and data collected under the monitoring program.

A program of environmental monitoring and adaptive management should be developed with the benefit of a third party scientific advisory board, perhaps modeled on the Massachusetts Water Resources Authority Outfall Monitoring Science Advisory Panel. Such a panel should draw on academic, private, and government scientists to help develop an appropriate set of protocols for data collection and adaptive responses to unacceptable environmental impacts.

While costs of developing basic data collection and analysis should be considered to be part of the operating expense of the Cape Wind Energy Project, the data collected will be of tremendous value to many industry, governmental and other stakeholders. In order to generate the full range of useful information and to insure the credibility of the data collected, it would be appropriate to draw on financial resources of private, public and quasi-public organizations to put in place a monitoring infrastructure that Cape Wind alone could not afford to put into place. Such funds for data collection and analysis

³⁷ Information on the Outfall Monitoring Program can be found at <http://www.epa.gov/region01/omsap/>.

should be administered through the science advisory board to ensure that data collection is objective and transparent. All environmental data collected from this project, sited on a public resource, must be made available to the public, in electronic form, in a real-time fashion when possible or with a minimal delay when necessary for data processing.

With respect to the monitoring program, the Final EIS should specifically develop the following protocols, broken down by project phases into construction, monitoring and adaptive management during wind farm operation.

a. Construction phase

The following elements need to be incorporated into the monitoring program during the construction period if the Cape Wind project is permitted:

- With regard to protected marine species (whales, dolphins, sea turtles) it is both important and feasible to ensure that these species are not adversely impacted by intense sounds produced under water during construction through simple monitoring and adaptive responses to avoid and mitigate such impacts. An automated acoustic warning system for whales, based on their vocalizations, should be implemented in consultation with experts at NMFS, and science advisors as appropriate. Real-time acoustical monitoring of impact sounds during construction should be implemented to reduce or eliminate the risk of injury to protected marine species. Based on the current modeling in the DEIS (Figure 40, Appendix 5-11A), sounds in the 100 Hz to 1.0 kHz band will clearly be above the NMFS threshold specified for risk to the hearing of marine animals at distances less than 500 m. This system should be operated throughout the construction phase, not just during the startup of installation.
- With regard to flying animals, Cape Wind needs to continue to gather data for the improved quantification of the risk of mortality to flying animals. These data must include the frequency, heights and the seasonal patterns and timing of transits by those species of the project site. This data need is particularly critical for wintering sea ducks, terns (specifically roseate terns) and migrating birds because of the lingering issues regarding those species during key seasons. Such data will be critical for regulatory oversight as well as for the development of avoidance and mitigation strategies for the project.
- With regard to fish, crustaceans and other marine life, spawning and migration activities and locations of key species must be monitored and coordinated with NOAA Fisheries and the Division of Marine Fisheries to ensure that submarine cable installation activities do not disrupt spawning and migratory activities.

b. Monitoring and adaptive management during wind farm operation

A carefully planned program of ongoing data acquisition (i.e. monitoring) and adaptive management of the wind farm should be developed and included in the Final EIS, including innovative approaches to sampling so that reliable estimates of environmental impacts can be made during turbine operation.

- With regard to birds and bats, the monitoring program must be capable of measuring species-specific mortality rates for birds and bats flying in the rotor-swept zone. Even with the fully developed pre-construction analysis based on observations in the project area and throughout Nantucket Sound, uncertainty will inevitably persist about the potential avian impacts that will occur if turbines are placed in the Sound. The interaction of birds and turbines is complex, and is determined by many factors including the presence of the turbines. Under many circumstances, birds avoid turbines, thus reducing risks way below that which might be predicted on the assumption that flight behavior in the intended project area will remain unchanged once the turbines are in place. Under other circumstances birds may be attracted to turbines, or at least unable to avoid them.

For these reasons, it is imperative that a strong plan for rigorous monitoring of bird and bat mortality be developed with the guidance of a range of competent scientists. The monitoring proposal in the DEIS is not strong enough. Data from effective monitoring should be used to guide mitigation measures, and as a critical input to a responsible program for adaptive management.

The monitoring program should be expanded to include two phases of post-construction monitoring. Phase I should be a period of relatively intensive monitoring during the first five years of the project. During this period, the ecological impacts to birds and bats should be quantified, any unacceptably high impacts identified, and mitigation measures developed and implemented, as needed. The monitoring program should be designed with a number of specific objectives but must also be designed in such a fashion as to increase the likelihood of detecting effects that have not been anticipated through monitoring an array of ecological indicators. The data and protocols developed during phase I should be used to set the objectives for long-term monitoring conducted during phase II, with guidance from the scientific advisory board.

Protocols used during phase II must be adequate to detect changes in steady state impacts, and provide the information needed for adaptive responses. For example, there may be a particular time window each year when some form of biological impact was demonstrated to be unacceptably high during phase I. Should this be the case, phase II monitoring, and adaptive management, should include protocols for reducing impact during a specific time window defined by ecological or behavioral criteria.

The essential objective for this bird and bat monitoring program is to quantify the species-specific mortality rates for flying animals in the rotor-swept zone. The Final EIS must include a solid plan for the use of scientifically sound methods for

reliably estimating the mortality rates for flying animals at all times of year and at all times of day and night. This will be challenging due the offshore nature of the project, and will require development and testing to identify reliable sampling protocols. The precise contours of the plan should arise from the efforts of the science advisory board. The effectiveness of these sampling methods should be validated.

To make this possible, individual turbines might be equipped with small radar systems that monitor incoming and outgoing bird or bat traffic and/or centralized radar data collection might be employed if such can be done effectively. Alternative technologies such as video, infrared imaging and impact triggered photography should be also explored. Acoustic methods for monitoring impacts to turbine blades should also be considered.

- With regard to marine mammals and sea turtles, a behavioral sampling protocol must be developed to examine the behavior of marine mammals as they navigate through the project area. This part of the monitoring program should be designed to detect aberrant behavior such as collisions with towers, disorientation in and around the farm or increased stranding rates within Nantucket Sound. Monitoring should be carried out in a coordinated fashion with other ongoing marine mammal monitoring (e.g. NOAA Fisheries) during phase I.
- With regard to fish, crustaceans and other marine life in the vicinity of the Cape Wind Energy Project, the monitoring plan must include a program of field observations within the wind turbine site and at background comparison sites that will detect unanticipated effects on marine life. Particular attention should be given to species composition and abundance in and around turbines, and to the behavior of electro-sensitive fishes near buried cables. This program should include a component directed at assessment of impacts in the near shore region along the cable route to shore. Design features for the underwater portion of the monopoles must take into account that increasing the abundance of fishes around the turbines could increase the mortality of fish-eating birds. Additionally, this issue must be addressed by monitoring to evaluate whether this becomes an issue and, if so, how it should be addressed.
- With regard to the benthic habitats disturbed or altered by the project, a program for assessment of the benthic communities, including both flora and fauna, within the project area must be developed. This will require a series of monitoring sites in the project area and habitat matched control sites outside that area for comparison. An evaluation of species composition and abundance should be made, including specific examination of the communities near buried cables, and at the bases of turbine towers. This program should include a component directed at assessment of impacts in the near shore region along the cable route to shore. Such monitoring should, in fact, be appropriate for all underwater cables in coastal and marine waters.

- The post-construction monitoring program for the project should include inspection and remediation of all submarine trenches and tower structures that fail to achieve background profiles within one month of construction.

IV. Conclusion

It is not an easy task to strike the appropriate balance between the very real concerns associated with the actual and potential impacts of the proposed Cape Wind Energy Project on the present environment and ambiance of Nantucket Sound and the equally real but overarching concerns about the devastating impacts of climate change to Nantucket Sound and New England. And yet it is clear that action must be taken immediately, actions that will reverse our catastrophic reliance on fossil fuels whose emissions threaten multiple species at a population scale in the region and that are responsible for cardiac and respiratory death and disease in our communities. The costs and benefits of these choices rest on models that have inherent and inevitable uncertainties.

The task of siting the quantity of utility-scale renewable energy projects in New England that are necessary to offset our own regional fossil fuel emissions to the atmosphere will not be cost-free to the environment or to the quality of our lives. On the other hand, that same quality of life will inevitably be altered at a scale and with consequences that can hardly be imagined unless we act to take all responsible actions to bring renewable wind energy to the region now.

The Corps and Cape Wind have done an impressive job in preparing environmental review documents that try to capture and quantify the expected impacts and risks of impacts that would be associated with the approval of a wind energy facility in the Cape Cod area. The scale of this effort, while impressive, is also appropriate given the importance of this public resource to so many. The reality is that wind technologies are new in many respects and our background understanding of the many coastal ecosystem processes is limited.

As the earlier comments indicate, CLF has some uncertainties and concerns with respect to the DEIS' treatment of the some of the potential interactions between the Cape Wind Energy Project and important marine and avian species. We believe these uncertainties and concerns can be reduced with relatively modest additional efforts by the project proponent and the Corps. We also believe that the immediate creation of a science advisory board will aid the Corps and improve the process of completing the Final EIS and monitoring this project.

In return, the Final EIS will be a better record on which to make the momentous and difficult decision on permitting this project that is before the federal regulators. CLF urges the Corps to take additional steps in preparing the Final EIS that we have detailed in these comments. Given the pressing nature of the need to move forward aggressively with the development of renewable energy sources, we believe that these steps can

properly be taken in all circumstances in connection with the preparation of the Final EIS and without resort to additional NEPA filings by the proponent.

CLF is committed to the timely and responsible development of significant renewable energy resources in New England. We believe that such sources can be developed in ways that minimize the impacts to the region's native flora and fauna as well as its quality of life. The Cape Wind Energy Project gives CLF and the region its first credible opportunity to struggle to achieve this outcome. We look forward to working with the Corps, Cape Wind Associates, and the science advisory board to address our concerns more fully both in the coming months.

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*Fisheries, Wildlife, Natural Heritage, Information, Education, Habitat***To:** Colonel Thomas Koning, District
Engineer**Fax:** 978-318-8303

003893

From: Amanda Veinotte, NHESP**Date:** 2/24/2005**Re:** Cape Winds Energy Project**Pages:** 16**CC:**☐ Urgent☐ For Review☐ Please Comment☐ Please Reply☐ Please Recycle**Notes:**



Division of Fisheries & Wildlife

Wayne F. MacCallum, *Director*

24 February 2005

Ellen Roy Herzfelder, Secretary
Executive Office of Environmental Affairs
Attn: MEPA Office
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Colonel Thomas L. Koning, District Engineer
U. S. Army Corps of Engineers
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Project Name: Cape Wind Energy Project
Proponent: Cape Wind Associates, LLC
Location: Horseshoe Shoal, Nantucket Sound
Document Reviewed: DEIS-DEIR
EOEA #12643
USACE NAE-2004-338-1

Dear Secretary Herzfelder and Colonel Koning:

These comments are offered in response to the Draft Environmental Impact Statement – Draft Environmental Impact Report (DEIS-DEIR) for the Cape Wind Energy Project. The proponent Cape Wind Associates, LLC, proposes to create a 454 MW wind power generation facility, consisting of 130 wind turbines, on Horseshoe Shoal in Nantucket Sound. We have reviewed the sections of the document pertaining to birds and bats, and offer the following remarks.

OVERVIEW OF PRIMARY CONCERNS:

The amount and design of the fieldwork conducted was insufficient to document avian use of the waters and airspace of Nantucket Sound, much less to evaluate risk. The aerial and boat surveys were inadequate or marginally adequate to describe daytime use of the Sound. The radar work (a few weeks of work in one year) was egregiously inadequate, it provided little information on situations during which birds would be at greatest risk (night and poor weather), and apparently



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no ground-truthing of the radar work was conducted -- rendering it of limited scientific merit. No radar work at all was conducted during winter months, when the Sound is used by hundreds of thousands of wintering waterbirds. The issue of disturbance and displacement of birds needs additional study. Additional fieldwork is needed to compensate for severe deficiencies in the work to date so that three years of data can be evaluated for the Final EIS-EIR.

The structures as designed, especially the Electrical Service Platform, are likely to attract birds and contribute to fatalities. There is no plan in place for evaluating their effectiveness in deterring birds or for maintaining the structures so that they do not become bird hazards. Bird deterrent systems must be more comprehensive.

The analyses (e.g., passage rates, fatality rates, radar work) as presented in the DEIS-DEIR are cursory, simplistic, and sometimes inaccurate. At times the calculation methodology is not transparent, and some calculations contain procedural/mathematical errors that generally result in (sometimes vast) underestimates of bird use of the area. All the biological data need to undergo reanalysis (not just review) by independent experts, especially biologists, statisticians, and those with radar expertise.

To estimate avian fatalities as a result of the wind facility, the DEIS-DEIR ignores site-specific data collected for this purpose, and instead bases estimates on fatality rates from terrestrial wind turbine facilities. Such estimates should be derived from site-specific and project-specific data in combination with data from other studies. Evaluation of collision risk must extend to the tower monopoles in addition to the rotor blades.

The potential effects of the proposed project on Piping Plovers could be significant, but cannot be adequately assessed without data collection specific to use of the project site by Piping Plovers. Such data were not collected for the DEIS-DEIR. We are concerned that even small additional mortality caused by collisions with wind turbines or towers will impede progress toward recovery of New England or Atlantic Canada Piping Plovers, and we believe that these concerns are supported by the predictions of the population viability analysis (PVA). We ask that a minimum of 3 years of research be conducted to assess the flight behavior and migration patterns of Piping Plovers in the vicinity of Nantucket Sound, and that the data generated by such a study then be used in the Final EIS-EIR to evaluate risk to Piping Plovers.

This project also may pose a grave risk to recovery of the Roseate Tern. The fieldwork, due to its failure to address situations that are most risky for terns, does little to alleviate uncertainties and concerns. Additional data collection and analysis are needed. The PVA for the Roseate Tern is seriously flawed; thus, the conclusion that the population is not at risk is also flawed. In particular, the PVA assumes an increasing population, when in reality, the population is now declining or stationary.

Additionally, the Roseate Tern and the Piping Plover are listed as *Endangered* and *Threatened*, respectively, pursuant to both the U.S. Endangered Species Act and the Massachusetts Endangered Species Act. Any human-caused mortality of these species is prohibited pursuant to both of these laws. Other state-listed species that use the Horseshoe Shoal area and may be negatively affected by the Cape Wind Project are the Common Tern, the Least Tern, and the

Common Loon; all three are protected as *Special Concern* species pursuant to the Massachusetts Endangered Species Act.

The Alternatives Analysis of the four preferred sites is totally inadequate with respect to evaluating relative use of the sites by birds. Comparable levels of data collection are needed for these sites.

SPECIFIC COMMENTS:

AERIAL AND BOAT SURVEYS

The Massachusetts Division of Fisheries and Wildlife requested "several years of careful work" (20 December 2001 comments on the Environmental Notification Form) to document use of the Sound by birds. Other entities (U.S. Fish & Wildlife Service, I. Nisbet) requested a *minimum* of three years of study. The importance of a multi-year study is to address the environmental variation that exists in nature: what is observed in one year may be very different than what is observed the next -- especially when dealing with highly mobile organisms (birds), some of which track highly mobile prey (fish). The Applicant conducted two years of surveys for wintering birds (Fall/Winter 2002-3 and 2003-4) and two years of Spring/Summer surveys for terns and other birds in 2002 and 2003 for a total of 46 aerial surveys and 27 boat surveys. The Massachusetts Audubon Society (MAS) conducted surveys for wintering birds in 2003-4 and is currently conducting wintering birds surveys. MAS also conducted Spring/Summer surveys in 2002 (limited), 2003, and 2004. Some of the MAS data appear in the DEIS-DEIR; the rest should be incorporated into the Final EIS when available. The analyses of MAS and the Applicant's data, where possible, should be better integrated in the Final EIS-EIR.

As currently presented in the document, **the survey work is inadequate in time span** (two years) to provide sufficiently detailed information on bird use of the Sound. However, including the MAS fieldwork that has not yet been completed/released, three years of aerial/boat survey work will have been conducted. While we consider this marginally adequate in terms of time span, we consider the study design seriously inadequate to answer some of the critical questions. The Applicant notes that "surveys were not conducted in inclement weather or at night." While we understand the safety concerns behind this protocol, those periods of poor visibility are when birds are most likely to collide with turbines (Erickson et al. 2001). Therefore, there needs to be a complementary focus on alternate methods of ascertaining wildlife use of the area. (See comments on "Radar Study" and "Roseate Tern," below.)

Of particular interest is bird use of the "rotor swept zone," where most collisions will occur. Setting aside the substantial issue of lack of data at night and in poor weather, **estimations of bird use of the rotor swept zone via aerial and boat surveys have two other major flaws.**

- (1) The first is methodological. Observers sighted relatively few birds flying in the rotor swept zone, but we suspect that many were not detected. The plane was flying at about 250 ft. (approximately the altitude of the rotor hub), and the rotor swept zone extends from 75 ft. to 418 ft. Observers primarily would have been looking at the sea surface to

count the substantial numbers of birds on or near the water. It is unlikely that observers could dedicate the same level of observation outward and upward to document higher-flying birds. In all likelihood, many birds (especially small or light-colored ones) flying near or above the height of the plane were missed. Comparison of simultaneous, aerial/boat surveys with *validated* radar work (see "Radar Results," below) could provide insight on this.

- (2) The second problem is computational. The precise computation is unclear (p. 5-128), but the DEIR-DEIS roughly uses total number of birds in the rotor swept zone during surveys divided by the hours of survey work to arrive at a total number of birds using the zone during the course of a year (e.g., 1 grebe observed in 202 hours = 0.005 grebes/hour = 33 grebes in 9 mo.). However, the number of hours the plane was in flight is essentially *irrelevant* to the calculation. What the Applicant has done in the survey work is, in effect, to take a "snapshot" of the area and count the birds, thereby arriving at a density estimate. In the absence of technology to do this instantaneously, the Applicant needed to fly transects through the area, a process that takes a few hours. But had a true instantaneous snapshot been taken, results would basically have been the same as those of an aerial survey taking a few hours. Employing the calculation methodology presented in the DEIS-DEIR, had the plane been traveling twice as fast, twice as many birds would have been determined to use the rotor swept zone during the course of the year, which is nonsense. **What is important to calculate is the rate at which birds enter the rotor swept zone.** In a simple hypothetical example, if one grebe per hour entered the rotor swept zone over the course of nine months, the total number in the rotor swept zone would be: 1 grebe/hr x 24 hr/day x 365 day/yr x 0.75 = 6,570 grebes. The authors did do something similar in analyzing the radar data, where a "passage rate" was calculated. (But note, as discussed below, that the radar data have not been validated, and the methods used to calculate passage rate were not sufficiently clear.)

RADAR STUDY

The radar work is grossly inadequate. Radar was employed only in May-June 2002 and September 2002. Although there was some correspondence with peak migratory periods, the study does not correspond with peak use of the Sound by waterbirds (late-fall to early-spring months). Hundreds of thousands of waterbirds spend the winter in the Sound, including species concentrations of regional and global significance. The radar period also failed to encompass important periods for shorebird migration (August) and tern post-breeding dispersal (July-August). Additionally, approximately half of the time, either the horizontal (TracScan) or vertical (VerCat) radar was not functioning. Radar should have been the primary tool for determining use of the Sound at night and during poor weather. **No sound conclusions can be drawn from what amounts to a several week study during one year, since variation in bird use from season-to-season and year-to-year is not addressed.**

We are greatly concerned by the apparent lack of ground-truthing of the radar work, despite the Corps' request that it be conducted (Environmental Impact Statement Scope of Work, www.nae.usace.army.mil/). This may have provided information on radar coverage (area effectively sampled) and sensitivity, species detected, individuals per target (a target may be composed of multiple individuals), target speed (affected by wind speed), quality/reliability of

visual observations, and other potentially useful data. There is reference (Appendix F) to nine boat surveys in spring and some undescribed observations in fall whose purported purpose was to provide ground-truthing for the radar work, some of which occurred simultaneously. However, there is no evidence in this DEIS-DEIR of any attempt to directly compare results of these two different methods. This needs to be rectified in the Final DEIR-DEIS. **Without validation of the radar work, there can be no defensible estimates of numbers or passage rates of birds.** It is particularly critical to validate bird use of the rotor swept zone, where most collisions are expected to occur. For instance, in estimates of risk, the authors generally equate the number of targets with numbers of birds, failing to acknowledge statements elsewhere in the DEIR that a target may represent multiple birds. Geo-Marine's report (Appendix 5.7-J) classifies targets as small (<80 g), medium (80-800 g), large (>800 g), and flock ("significantly" > 800 g), but any of these categories may represent multiple birds, and the discussion of this work does not even separate out "flocks" from the rest of the data. Had ground-truthing of the radar work been conducted, some insight could have been gained on this issue.

The DEIR-DEIS should also differentiate between the Horseshoe Shoal site and the greater study area, and should separate analyses of activity in the rotor swept zone from other analyses.

As previously stated, one of the issues of greatest concern is birds' use of the Sound in conditions of restricted visibility (poor weather, nighttime), when collision risk is highest. The Applicant does provide some information on bird use in foggy/unclear conditions, but there is conflicting information on whether or not flight heights could be determined in periods of rain. The discussion in Appendix J on operation of the VerCat in rain needs elaboration, as conflicting information is presented. On p. 4, it is stated that "precipitation degrades the performance of VerCat." Also (p. 7-8), "rain appears similar to bird detections...[and] is difficult to remove via clutter processing methods; also, rain produces more clutter at X-band [VerCat] than can be removed from the data during processing of data. This makes detection of targets in rain (X-band only) unreliable." Nevertheless, Appendix J does present detections by VerCat during rain and section 5.7.2.3.3 makes some generalizations based on weather (clear vs. rain/fog). By what process were these data deemed reliable? What proportion of detections in rain was filtered out vs. kept in? What were the total hours of *reliable* VerCat data in rain, or is all of it suspect?

The discussion of the radar work is cursory at best (p. 5-115-116). In the rotor swept zone, 127,697 targets (26% of all targets detected by the VerCat) were detected in about 951 hours of observation. What were the characteristics of the targets detected in the rotor swept zone (speed, size, numbers, directions of flight)? How did this change during inclement weather? What were the passage rates in the rotor swept zone? Additionally, the discussion of total birds in the rotor swept zone over the course of the year (p. 5-128) does not provide sufficient documentation of how the calculation was performed. It incorporates the total number of hours that either radar was functioning, instead of just the hours that the VerCat, which can determine altitude, was working. Since the VerCat functioned only about half the time, the estimate of number of birds in the rotor swept zone (flawed though it may be) is approximately half of what it would have been had the proper denominator been used.

The Final EIR-EIS should include: (1) additional validated radar work to address seasonal and annual variations in bird use over a three-year period, (2) acoustic monitoring in

conjunction with the radar work (to identify species or species groups), if technologically feasible, and (3) an analysis of these radar/acoustic studies by independent scientists with significant biological expertise in radar/acoustic work (and reanalysis of the 2002 study). This additional analysis should include detailed evaluation of birds' responses to the data tower (SMDS), especially at night, which should be discernable with radar. While the data tower obviously differs in significant ways from the proposed turbines, it nevertheless may provide useful information on birds' reactions to an unusual structure in the offshore marine environment.

PIPING PLOVERS

The DEIS-DEIR acknowledges that about 28% of the Atlantic Coast population of Piping Plovers nests to the north of Nantucket Sound, and that some of these birds may cross Nantucket Sound and the project area at Horseshoe Shoal in the course of their spring and fall migrations (Appendix 5.7-H, section 3.1.7). We concur with the DEIS-DEIR that it is likely that some Piping Plovers will cross the project area during migration. We also concur that insufficient data are available to characterize the movements of plovers across the Sound (3.1.4).

We believe that the potential effects of the proposed project on Piping Plovers could be significant, but cannot be adequately assessed without data collection specific to use of the project site by Piping Plovers. Such data were not collected for the DEIS-DEIR. We are concerned that even small additional mortality caused by collisions with wind turbines or towers will impede progress toward recovery of New England and/or Atlantic Canada Piping Plovers, and we believe that these concerns are supported by the predictions of the population viability analysis (PVA) described in Appendix 5.7-H, Attachment 1, of the DEIS-DEIR (see below). **Any human-caused mortality of Piping Plovers is prohibited pursuant to the U.S. Endangered Species Act and the Massachusetts Endangered Species Act. We ask that a minimum of 3 years of research be conducted to assess the flight behavior and migration patterns of Piping Plovers in the vicinity of Nantucket Sound (see below), and that the data generated by such a study then be used in the final EIS-EIR to evaluate risk to Piping Plovers.**

Omissions: Figure 1 in Appendix 5.7-H of the DEIS-DEIR fails to identify one of the largest breeding concentrations of Piping Plovers in New England: Dead Neck/Sampson's Island in Osterville supported 16 pairs of Piping Plovers in 2002 (Melvin and Mostello 2003), and is located only 8 miles northwest of the proposed project site at Horseshoe Shoal. This information further demonstrates that the project site is surrounded by Piping Plover breeding sites.

In section 3.1.2 the statement is made that migrant Piping Plovers traveling directly between late-summer migration staging areas near South Beach and the Monomoy islands in Chatham and wintering areas to the south would not pass over Horseshoe Shoal. However, this is just one hypothetical scenario. If Piping Plovers migrate within sight of shorelines, so that they can land on intertidal flats or beaches to forage or rest as necessary or to avoid unfavorable winds or inclement weather, then a likely route for post-breeding migration from the Chatham area would be directly across Nantucket Sound in a west-southwest direction toward the coastline of Rhode

Island and eastern Connecticut. This route likely would take migrant plovers across the footprint of the project area.

Estimates of potential mortality: Given the lack of actual data on Piping Plover migration patterns and flight behavior, we believe that it is impossible to reliably conclude that the mortality of Piping Plovers from collisions with rotors or towers will be biologically insignificant. The estimates of potential mortality of Piping Plovers caused by collisions with wind turbines contained in the DEIS-DEIR (Appendix 5.7-H, section 4.2.5.2) may substantially underestimate actual mortality that could occur. We disagree with the apparent conclusion (section 4.2.5) that no Piping Plovers will be killed by collisions with the stationary towers. Rather, we believe that plovers could collide with towers if they fly through the project area at night or in foggy conditions. We believe that the estimate of 2,000 as the mean migration elevation of Piping Plovers crossing Nantucket Sound may be inappropriate, given that it likely was derived from flight elevations of species other than Piping Plovers migrating southeastward from breeding areas in subarctic regions of North America (Richardson 1979). Flight altitudes of Piping Plovers crossing Nantucket Sound may be much lower on average, especially for birds just departing from or arriving at Massachusetts breeding sites or migration stopovers or staging areas. It seems plausible to us that the proportion of Piping Plovers passing within the elevation of rotors (23-127 m) could be 0.8 or higher. If we assume 0.8, and further assume that the number of plover flights crossing the Massachusetts coastline each year is 2,458 (from the DEIS-DEIR) and the fraction of these flights that actually pass through the project area is 0.1 (compared to 0.4 in the DEIS-DEIR), then the expected number of instances each year in which plovers would enter the rotor-swept zone where they would be at risk of being killed would be $2,458 (0.8) (0.1) = 197$ flights. Multiplying 197 flights by 0.157 (the estimate from the DEIS-DEIR of the percent of birds flying through the rotor-swept zone that are actually killed, from Winkelman 1994) gives an alternative estimate of 31 Piping Plovers that could be killed each year by a proposed offshore wind park in Nantucket Sound.

Effects on Piping Plover population trends, viability, and recovery efforts: We concur with the results of the population viability analysis (PVA) (Appendix 5.7-H, Attachment 1) that conclude that population trends and population persistence of Piping Plovers are highly sensitive to changes in survival rates. It is precisely for this reason that we are so concerned about potential effects of plover collisions with wind towers and turbines. Under the "No Growth" scenario of the PVA (the scenario which most accurately depicts the recent population trend of Piping Plovers in New England and Atlantic Canada), an additional fatality of only 1 female/ year increased by 3% the risk that the New England sub-population could decline below current levels. This assessment assumes no change in current conditions, for example, declines in survival rates caused by declining quality of wintering or migration habitat south of New England, or the cumulative effect on Piping Plover mortality rates of multiple off-shore wind tower projects constructed elsewhere along the Atlantic Coast. If habitat conditions decline in the future enough to depress current rates of survival or fecundity, then fatalities caused by a proposed wind park in Nantucket Sound could be expected to cause an even greater increase in the risk of population decline of Atlantic Coast Piping Plovers.

The results of the PVA contained in the DEIS-DEIR suggest that the loss of even one female plover as the result of a collision with a wind turbine in the project area could

measurably increase the risk that the New England subpopulation could decline below current levels ("No Growth" scenario). This comes at a time when substantial efforts are being made by state and federal agencies, private conservation groups, and many others to restore populations of Piping Plovers along the Atlantic Coast. An estimated \$500,000 is spent each year on Piping Plover recovery efforts in Massachusetts alone (U.S. Fish and Wildlife Service, unpubl. data). If efforts in Maine and five Canadian provinces are considered as well, the estimated annual cost of recovery activities likely approaches \$ 1 million. Because so much effort is being expended to not only prevent human-caused declines in Atlantic Coast Piping Plovers, but also to increase their numbers as part of an international recovery effort (U.S. Fish and Wildlife Service 1996), we believe that data should be gathered that will allow the Final EIS-EIR to more accurately assess the risk of the proposed project to Piping Plovers.

Research Needs: Construction of a large, offshore wind power generation facility in Nantucket Sound, as proposed in the DEIS-DEIR, should not be permitted until a study of at least 3 year's duration is completed that examines flight behavior and migration patterns of Piping Plovers in the vicinity of Nantucket Sound, in order to better assess the risk that plovers will encounter a large wind tower array constructed on Horseshoe Shoal or at other locations in Nantucket Sound and be killed by collisions with rotors or towers. The study should use established techniques for radio-marking Piping Plovers (Zivovnovich and Baldassarre 1987, Drake et al. 2001) and long-distance radio-tracking of migrating birds (Cochran et al. 1967, Melvin and Temple 1987) to characterize migration behavior both in spring, as plovers approach Massachusetts from the south, and in late summer, as they leave nesting beaches or migration staging areas on Cape Cod and begin their southward migration. Radar may help to augment telemetry studies of Piping Plover migration, and should also be used to characterize migration patterns and flight behavior of other, more abundant species of shorebirds in and near the project area.

TERNS

Taken together, Cape Wind and MAS surveys span three tern nesting/staging seasons in the study area. In terms of time span, that is marginally adequate *if* all MAS data are included in the Final EIR-EIS, but insufficient as currently presented (only two years). However, constraints in study design and flawed analysis of risk render conclusions unsound

The Applicant's studies have shortcomings in that they fail to provide sufficient information on situations during which terns are likely to be at greatest risk of collisions: during periods of restricted visibility and when commuting between daytime loafing/feeding areas and nighttime roosts. The Final EIR-EIS should include: (1) additional validated radar work throughout the period when terns are present (April through September) to provide three years of data, (2) acoustic monitoring in conjunction with the radar work (to help identify terns), if technologically feasible, (3) an analysis of these radar/acoustic studies by independent scientists with significant biological expertise in radar/acoustic work (and reanalysis of the 2002 study), and (4) observations of terns at and near roosting areas to gain information on commuting flight heights.

As discussed for other species elsewhere in these comments, the methodology for estimation of numbers of terns using the study site during the day is unsound due to methodological

constraints and computational problems: (1) it would be easy to miss high-flying terns on surveys, and (2) instead of calculating passage rates, the authors have tried to use a "snapshot" density estimate to calculate number of terns that would be present in the study area over the course of a year. The majority of waterbirds the Applicant studied for this DEIS spend most of their time on the water (e.g., eiders, scoters), diving from the surface to obtain food. Terns, however, forage from the air and spend very little time sitting on the water. **Therefore, terns glimpsed by the Applicant during surveys are a very small subset of the total number of terns that use the area.**

The collision rate for Roseate Terns predicted by the Applicant (Appendix 5.7-H) is partially based on observations of terns flying at rotor height: again, these were density data erroneously transformed into rate data. The Applicant identified 100 terns (49 Common, one Roseate, and 50 unidentified) in the rotor swept zone. This corresponds to *much larger* numbers of terns using the zone on an annual basis, had passage rates been properly calculated. Collision rates as high as 1 in every 600 terns passing at rotor height (collision rate for Common Terns, Everaert et al. 2002 unpublished report cited in Appendix H: p.23) could accelerate the decline of the Roseate Tern, and hinder recovery of Common and Least Terns, depending on the passage rate of these species. **It is critical to determine these passage rates for all state- and federally listed birds.** Once these rates are determined, other site-specific and project-specific data, in combination with data from the literature, may help to formulate a more realistic estimate of collision risk to all three species of terns.

Curiously, the authors (p. 5-136) predict a greater number of fatalities for Piping Plovers (0.08 individuals/year) than for Roseate Terns (0.0002 individuals/year). This is illogical. During site-specific studies, Roseate Terns were documented to regularly use Horseshoe Shoal, and were observed in the rotor swept zone. No studies were conducted that would be likely to result in detections of Piping Plovers.

The function of the Roseate Tern PVA presented in the DEIS-DEIR is to predict how the population will respond to different levels of mortality. **This PVA, however, is seriously flawed.** Especially in need of reexamination is the assumption that the population is now increasing at a rate of 2% per year, and is headed towards recovery. The population slowly increased overall from 1978 to 2000. Of great concern is the downward trend since 2000, both in Massachusetts and in the region. It appears that **the Roseate Tern population is now decreasing at a rate of about 4% to 5% per year.** It is unclear why the Piping Plover PVA would incorporate two scenarios, "No Growth" and "Intermediate Growth", while the Roseate Tern PVA does not, even though the latter population has declined – or, at best, stagnated (much like the plover population) -- in recent years.

Approximately 90% of the Roseate Terns in the endangered Northeast population breed to the west of Nantucket Sound in Buzzards Bay, MA and off of Long Island, NY. After breeding, a significant proportion (perhaps all) of the Northeast Roseate Tern population travels to staging areas in Chatham prior to migration (Trull et al. 1999), likely passing through Nantucket Sound. Therefore, the proposed turbine project may put the entire population at risk, not just "local" breeders.

We acknowledge that year-to-year numbers have fluctuated substantially, and this variability makes any predictions uncertain. However, **because of the Roseate Tern's listed status and evidence that the population may be in decline (or stagnant), any individual mortality is unacceptable.** It is irrelevant that tern use of Horseshoe Shoal may be lower than in other portions of the Sound.

COLLISION RISK EVALUATION

The DEIS-DEIR does not elaborate on the large number of birds using the rotor swept zone and instead focuses on "population-level effects" on night migrants, which they deem unlikely. The authors state (p. 5-123) that "it is more important to examine the behavior of night flying birds, especially migrants, since these are the birds that have been shown to be more susceptible to impacts from wind turbines." It is unfortunate that the nighttime radar work was severely deficient. The DEIS-DEIR also dismisses the possibility that any real mortality will occur from the turbine towers themselves, even though this has been documented (BirdLife International 2003). Evaluation of collision risk must extend to the towers.

The authors make some unsound (for reasons stated elsewhere in these comments) estimates of total numbers of various groups of birds expected to occur in the rotor swept zone per year based on aerial surveys conducted during the day and in good weather. (Note conflicting estimates for loons, p. 5-126 and 5-128.) **The best way to derive estimates of bird use of the rotor swept zone is to calculate passage rates from multiple years of validated radar work (in all seasons, at all times of day, and in all weather), in conjunction with acoustic monitoring (if technologically feasible) to provide species- or group-specific information. Without this, no serious estimates of avian use of the rotor swept zone can be made.**

We acknowledge that it is difficult to estimate the numbers of birds likely to be killed by turbines because of the complex interactions among a variety of factors. Additionally, data on collisions at offshore sites are limited. Strangely, however, **in projections of fatalities from the proposed project, the DEIS-DEIR completely ignores site-specific studies of bird use of the area that were conducted for the purpose of gauging bird use of the area and fatalities that would result from the proposed project.** Instead, an "upper-limit" mortality rate (2.8 fatalities/turbine/yr) is calculated from 12 *terrestrial* sites to estimate mortality (364 birds/year). Using mortality rates (0.04 - 0.14 birds/turbine/day) from a site near the Wadden Sea mentioned subsequently, mortality would range from 1,900 to 6,600 birds/year. The authors also cite a study that recorded 7 night migrating songbirds/turbine/year (p. 5-127); this rate would result in 910 songbirds/year. These examples are not offered as more accurate estimates than those provided by the authors; rather, their purpose is to demonstrate the great amount of variability in mortality estimates at wind turbine sites -- and thus uncertainty about the amount of mortality that will occur from 130 turbines in Nantucket Sound. **In our opinion, the Applicant's estimate of 364 birds/year is an underestimate of what the actual mortality would be, given the very high numbers of birds in the Sound, the frequent occurrence of inclement weather in the Sound (which will contribute to fatalities), and the large number of turbines.**

BATS

The DEIS-DEIR (pp. 5-98-99) gives a poor overview of bat use of the marine environment and current status of knowledge of bat collisions at wind turbine facilities. Bats are known to be present in the marine environment, sometimes many miles offshore (e.g., Mackiewicz and Backus 1956). Because migratory tree bats occur on Martha's Vineyard and Nantucket, they must cross waters of the Sound during migration, but numbers of bats, flight characteristics and paths are unknown. The authors state that because of their echolocation capabilities "...it seems unlikely that foraging bats would be unable to detect turbines... bats crossing the Sound should be capable of using echolocation to avoid wind turbines... [and] collisions risk to bats is expected to be minimal." The authors completely ignore recent observations at the Mountaineer Wind Energy Center (WV) at which several hundred bats, mostly tree bats, have been found dead. The site-specific studies conducted by the Applicant are not useful in determining risk to bats, which are indistinguishable from birds on radar. **At a minimum, the DEIS-DEIR should include an unbiased review of bat mortality at wind farms, along with a thorough review of bat use of the offshore environment.**

DISTURBANCE AND DISPLACEMENT OF BIRDS

Evaluation of disturbance and displacement during construction, operation, and decommissioning needs to include estimated maintenance schedules, numbers of birds (especially sea ducks) likely to be affected by boat disturbance, displacement distances, total area from which species are displaced, and duration of disturbance. Facets of birds' responses to vessels should be gleaned from the radar study -- some of the Applicant's boat work was conducted simultaneously, and other vessels were surely within range of the radar during its operative period.

The proposed project area would occupy approximately 24 mi.² of Nantucket Sound; thus, displacement effects must be taken seriously. Displacement may result in a significant reduction in carrying capacity of the Sound if portions of the habitat are functionally unavailable to the birds.

The DEIS-DEIR maintains that benthic habitat is similar throughout the Sound, and that displaced birds will likely find suitable habitat/prey "immediately adjacent" to the area from which they have been displaced. This idea of homogeneously abundant resources is likely a fallacy. While benthic habitat may appear similar superficially, the patchy distribution of some bird species suggests that certain areas are more suitable than others. Arcas may increase or decrease in importance over time, possibly related to prey depletion by seabird predators or environmental factors. **Three years of systematic sampling should be done throughout the Sound to examine prey abundance and distribution in relation to bird abundance and distribution.** This will permit more informed assessments of how a large turbine facility may affect avian carrying capacity of the Sound.

SITING AND MITIGATION

Siting: The most important factor to consider when attempting to avoid or minimize impacts of a wind facility on wildlife is siting. Although we do not have a complete, year-round picture (due

to limitations of the field and radar studies), it is clear from the Applicant's and MAS's biological studies that bird use of the Sound, including Horseshoe Shoal, is very high, as the authors cautiously concede (p. 5-127-128). BirdLife International (2003), after thorough review of the literature, stated that "[t]he weight of evidence to date indicates that locations with high bird use, especially by protected species, are not suitable for wind farm development." Nantucket Sound is clearly a wintering area of regional and global significance for wintering waterbirds, and is utilized by federally- and state-listed rare bird species (Piping Plover, Roseate Tern, Common Tern, Least Tern, Common Loon).

Instead of determining the suitability of the Sound for a turbine facility by quantifying bird abundance in the Sound *prior to* proposing this project, the Applicant simply stated (with inadequate supporting data) in their Environmental Notification Form (2001) that bird use of Nantucket Sound was low. Now – unable to support this previous statement – the Applicant is attempting to show that the extremely large numbers of birds using the Sound, and the presence of rare species, are of no real concern. The site-specific work to date does not alleviate our concerns.

Lighting: As acknowledged by the authors, it is well known that some birds are attracted to lighting, especially in poor weather. A discussion is needed of how and why the lighting scheme differs from that recommended by USFWS (2003) to minimize bird fatalities. Flashes should be synchronized among all towers (not just perimeter towers, as described on p. 5-229) to minimize the total amount of time that lights are visible. Discussion of lighting used during nighttime construction is vague and needs further elaboration (p. 5-120).

Bird deterrents: We are concerned about the bird deterrent systems described (p. 5-138, Appendix H: pp. 19-20.) for the wind turbine generators (WTGs) and Electrical Service Platform (ESP). Overall, much more description is needed of all potential perching areas, and how birds will be deterred in each type of area (e.g., platforms, ladders, nacelles, railings). Specific problems:

- (1) The deterrent system described for the WTG access platforms may work, but this is difficult to evaluate because the description of the platform itself is unclear. A diagram should supplement the description.
- (2) It is very unlikely that this same system for the much larger ESP (200' x 100') will deter terns or other birds from perching, as acknowledged by the authors. The Applicant's system focuses on making the perimeter unattractive to birds, but there is simply too much interior surface area on the ESP that will remain available for perching. Terns using this platform to initiate courtship flights may ascend into the rotor swept zones of nearby turbines. The Applicant has not shown any initiative in creatively addressing this potentially large problem.
- (3) Birds will be startled by helicopter arrivals and may collide with fences, wires, and panels.
- (4) A system for deterring birds from perching on access ladders or nacelles has not been described.
- (5) A monitoring plan to assure that the systems are indeed effective deterrents has not been outlined.

- (6) There is no mention of a maintenance plan for these systems, which in and of themselves may become bird hazards through deterioration (e.g., injury from loose or corroded wires).

These problems need to be rectified and discussed in the Final EIR-EIS.

MONITORING PLANS

No plan has been described for post-construction monitoring of bird movements or collisions with structures. This should be detailed in the Final EIR-EIS.

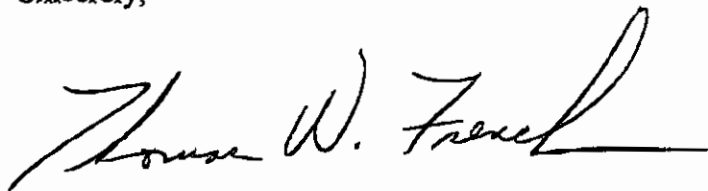
ALTERNATIVE SITES

With respect to avian impacts, **no meaningful comparisons of the proposed project location with the four preferred alternative sites can be made due to the lack of comparable data from the sites.** Parallel studies must be conducted at alternative sites to enable useful comparisons. The New Bedford locations are likely to pose greater risks to terns than would the Horseshoe Shoal location, since large tern colony sites are also within Buzzards Bay. At Massachusetts Military Reservation, construction of a turbine facility would result in extensive habitat fragmentation. At this site, it would be difficult or impossible to avoid impacts to rare species, especially herpetofauna, invertebrates, and birds.

* * * * *

Due to deficiencies in the wildlife studies, data analyses, assessments, and mitigation and monitoring plans, we are unable to adequately evaluate the degree of risk that the proposed turbine facility would pose to birds, including rare state- and federally listed species. We are concerned, however, that considerable avian mortality may result, given the large number of birds using the site and the large footprint of the proposed project. We request that the Applicant address these deficiencies in a Final EIS-EIR so that we can more completely evaluate the potential effects on wildlife. Please contact Dr. Scott Melvin (508-792-7270 ext. 150) or Carolyn Mostello (508-792-7270 ext. 312) if you have any questions. We appreciate the opportunity to comment on this project.

Sincerely,



Thomas W. French, Ph.D.
Assistant Director

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How did this Wind Farm Issue have come this far?

003994

If we are asked to make this monumental decision what more do we need than the basic issue of ' WHO'S LAND IS THIS ANYWAY'?? It doesn't belong to us. It doesn't belong to the Army Corps of Engineers. It doesn't belong to the government either!

It is ENTRUSTED to us...each of us.... to care for as best we can for generations to come.

How are we able to even consider setting a precedent in allowing a private enterprise....any private enterprise to use, for any purpose, Horseshoe Shoals or anyone of our pristine national treasures?

Where would it end? Would we let turbines be erected on the windy shores of the National Seashore? Or what about turbines in the Grand Canyon? I know, that is ridiculous right? Or is it? There is no argument with the concept of wind energy, we need it desperately, but NOT to destroying, forever, the magnificence of Nantucket Sound.

We all know how it happens; first there's McDonalds, then Burger King, Wendy's. Home Depot sets the precedence for BJ's. You get the picture.

The point is WHERE DOES IT STOP?

How much wind is in Cape Cod Bay? How about in the middle of Nantucket Harbor? Or right off Gay Head?

There must be appropriate places to build wind turbines that let's us keep the SPIRIT of this beautiful, fragile land for generations to come. Remember this decision is for KEEPS, we can't take it back.

Please state your questions/comments in the space below:

Joan D. Shanahan * 688 Scudder Ave * Hyannis Port * MA * 02647

February 21, 2005

003995

PLEASE SAVE NANTUCKET SOUND

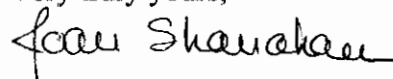
~~003995~~

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742

Dear Colonel Koning,

Please add your voice to those of all the concerned citizens who feel the Cape Winds project would be a terrible detriment to Nantucket Sound and to the life and beauty appreciated by so many who live or visit on Cape Cod.

Very truly yours,



Joan D. Shanahan

RECEIVED
FEB 24 2005
NANTUCKET DIVISION

Feb. 20, 2005

Dear Colonel Koning,

003396

The Cape Wind Draft
Environmental Impact
Statement is inadequate
as it does not take into
account the tremendous
impact ~~be~~ to air pollution, visual
& noise pollution and the
quality of life that we on
Cape Cod enjoy - all kinds
of people enjoy the beaches
here that are incomparable
to many parts of the world.
Fisher man, Poor People who have
little enough in life to enjoy
just love the beach on Cape
Cod. It is for everyone rich &
poor and is invaluable -
No amount of money could

pay for what it gives to us
all.

But these windmills
where they cannot ~~be~~ ~~be~~
be seen or heard and where
it does not affect tourism
and the pleasure that we all
need for ~~recreational~~
recreation.

Sincerely,
Mrs. J. Flynn
32 Scudder Road
Oxtenville, Ma.
02655

Mrs. Peter C. Walker
2907 Garfield Street, N.W.
Washington, D.C. 20008

Feb 20, 2005

Dear Colonel Kottang,

000007

The Cape Wind Draft Environmental
Impact Statement is in my view
inadequate in many areas, including:
air and boat navigation safety, impacts to
birds and other wildlife, pollution threats
from oil in the transformer station, visual
pollution and associated economic and
Tourism impacts, and the analysis of
alternative sites -

Sincerely

Pamela C Walker
(Mrs Peter C.)

ELINOR H. ADAMS
185 Cedar Tree Neck Road
Marstons Mills, MA 02648

February 19, 2005

003998

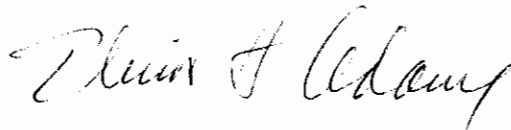
Colonel Thomas Koning
U. S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742

Dear Colonel Koning:

To use Nantucket Sound for a large industrial business, even one that uses wind power, is to take from the world a beautiful, small, irreplaceable place. I have yet to read in all that has been published concerning this project why a land-based site on Cape Cod or elsewhere cannot offer most of what the Sound offers—except that a land-based site will have costs to the developer that the “free” Sound does not. But the Cape Wind Draft Environmental Impact Statement does not begin to cover the costs to the public—costs both in quality of life for Cape Cod residents and their visitors and potentially in pollution, impact on wildlife, and the impact on tourism and the small businesses of Cape Cod that rely on tourism.

Nantucket Sound is a very specific place, not just some anonymous area on the open ocean. And Horseshoe Shoals is a very specific place on Nantucket Sound. Many people leave our shores every day, for most of the year, for these specific places, and have done so for generations. There are some places on this earth that should not be given away to a corporation. I believe this is one of them. Please consider the impact of your decisions concerning this project.

Yours very truly,



THOMAS
KONING
U. S. ARMY CORPS OF ENGINEERS

CAPE & ISLAND UROLOGY

Adult and Pediatric

PAUL R. BOUCHÉ, M.D.
J. KEITH BLEILER, M.D.

19 BRAMBLEBUSH PARK
FALMOUTH, MASSACHUSETTS 02540
TELEPHONE (508) 540-7555
FAX (508) 540-3008

February 10, 2005

003999

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742

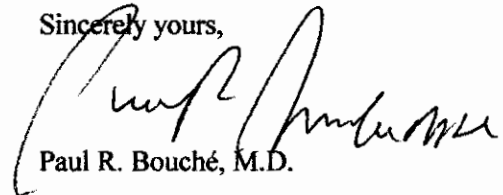
Dear Colonel Koning:

I am writing this letter to state that I feel the proposed wind farm in Nantucket Sound will have a significant impact on that significant resource that we on Cape Cod and visitors enjoy. An analogy that comes to mind is putting this type of industry in a Grand Canyon or another National Park.

In summary, it does not belong in this locale. I am sure that other reasons against it which could be a hindrance to wildlife and fishing are also significant reasons.

Hopefully, you will take some of these reasons into account during our deliberation.

Sincerely yours,



Paul R. Bouché, M.D.

PRB/pmt

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FEB 11 2005

U.S. ARMY

Thomas W. Lincoln
27 Gleason Street
Medford, MA 02155

004000

February 22, 2005

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742

RE: Cape Wind Project - Nantucket

Dear Colonel Koning:

I am writing to express my strong opposition to the Cape Wind energy project currently under review by your office.

In addition to the dubious economic aspects of the project, as well as its blatant grab of public resources, Cape Wind fails on a number of environmental issues. Accordingly, the Cape Wind Draft Environmental Environmental Impact Statement is patently inadequate. My concerns are as follows:

1 - Impact on Bird Populations - experience in other places with windpower projects (such as California) shows a devastating effect on migrating bird populations, particularly shorebirds and raptors. This aspect of the potential impact of Cape Wind has not been adequately addressed, and the published predictions of birdkill are so low as to be laughable. I know wildlife protection has never been a traditional focus of the Army Corps of Engineers, but it certainly ought to be.

2 - Pollution - the effects of the proposed transformer substation on water and air quality have not been properly addressed. As you probably know from your colleagues in the Coast Guard, the general corporate track record when it comes to oil spills and other marine pollution gives one very little confidence that this proposal would be any better.

3 - Other Marine Impact - Common sense tells me that you cannot build a huge project of this size in a shallow shoals environment without deleterious effects on fish life, marine life, and the like.

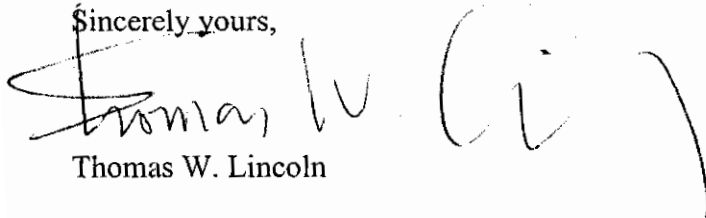
4 - Alternatives - Because of the high-dollar, slick-publicity aspects of the proponent, little or no thought has been given to alternatives. For example, it strikes me that if the general population were all given CFLs for the lights (and other conservation measures), not only would the per customer cost be lower, but it would reduce electricity demand to a point where additional capacity would not be required. Now, I know energy conservation is not as sexy as dozens of huge windmills, but it is economically sound, environmentally benign, and a lot more sensible than risking our environment for a project that relies on a public giveaway, and dubious science to "succeed."

Colonel Thomas Koning
RE: Cape Wind Project - Nantucket
February 22, 2005
page 2

From the beginning, this project has been blessed with a deep-pocket, aggressive proponent, regulatory confusion, and the lure of new technology. despite all this momentum and "spin," the fact remains that none of these factors make it any better from an economic or environmental perspective.

Consequently, I urge you to do the right thing and demand further study of its environmental impact. I believe that is within your mission and your grasp. Thank you.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Thomas W. Lincoln". The signature is stylized with a large, sweeping initial "T" and a long, horizontal stroke extending to the right.

Thomas W. Lincoln

recycled paper

RECEIVED
FEB 24 2005
U.S. DEPARTMENT OF THE INTERIOR